



Office of Inspector General

Audit Report

WATER

North Carolina NPDES Enforcement and EPA Region 4 Oversight

REPORT NUMBER 2000-P-00025

September 28, 2000

**Inspector General Division(s)
Conducting the Audit**

**Southern Audit Division, RTP Regional Audit
Office
Research Triangle Park, NC**

Region covered

Region 4

Program Office(s) Involved

**Office of Water
Office of Enforcement and Compliance Assurance**



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF INSPECTOR GENERAL
SOUTHERN AUDIT DIVISION
ATLANTA FEDERAL CENTER
100 ALABAMA STREET, S.W.
ATLANTA, GEORGIA 30303-3104

Regional Audit Office
Mail Drop 53
Research Triangle Park, NC 27711

September 28, 2000

MEMORANDUM

SUBJECT: North Carolina's NPDES Enforcement and Region 4 Oversight
Final Audit Report No. 2000-P-00025

FROM: John M. Bishop /s/
Audit Manager, RTP Regional Office
Southern Audit Division

TO: John H. Hankinson, Jr.
Regional Administrator
EPA Region 4

Attached is our final report on our audit entitled "North Carolina's NPDES Enforcement and EPA Region 4 Oversight." The primary objectives of the audit were to determine whether: (1) EPA Region 4 had provided sufficient oversight to ensure that North Carolina operated an adequate NPDES compliance monitoring and enforcement program, and (2) North Carolina had taken timely and appropriate enforcement action against major and minor facilities in noncompliance with their permit conditions and had developed a permit for concentrated animal feeding operations that provided all necessary Clean Water Act statutory and NPDES regulatory provisions and was subject to EPA review and enforcement.

This audit report contains findings that describe problems the Office of Inspector General (OIG) has identified and corrective actions the OIG recommends. This audit report represents the opinion of the OIG and the findings contained in this audit report do not necessarily represent the final EPA position. Final determinations on matters in this audit report will be made by EPA managers in accordance with established EPA audit resolution procedures. Accordingly, the findings described in this audit report are not binding upon EPA in any enforcement proceeding brought by EPA or the Department of Justice.

In accordance with EPA Order 2750, the primary action official is required to provide us with a written response to the audit report within 90 days of the final audit report date. Since this report deals primarily with North Carolina's NPDES enforcement and Region 4's oversight of that enforcement, we are requesting that you, as the primary action official, take the lead in coordinating and providing us a written response to this report. For corrective actions planned but not completed by the response date, reference to specific milestone dates will assist us in deciding whether or not to close this report in our audit tracking system.

Should you or your staff have any questions about the report, please contact me at 919-541-1028.

Attachment

cc: See Report Distribution List

EXECUTIVE SUMMARY

PURPOSE AND OBJECTIVES

This audit was conducted to evaluate EPA Region 4's oversight of North Carolina's National Pollutant Discharge Elimination System (NPDES) enforcement program and the effectiveness of the State's operation of that program. Our primary audit objectives were to determine whether:

- EPA Region 4 had provided sufficient oversight to ensure that North Carolina operated an adequate compliance monitoring and enforcement program, and, whether North Carolina had:
- taken timely and appropriate enforcement action against major and minor facilities in noncompliance with their permit conditions,
- developed a permit for concentrated animal feeding operations (CAFOs) that provided all necessary Clean Water Act (CWA) statutory and NPDES regulatory provisions and was subject to U.S. Environmental Protection Agency (EPA) review and enforcement.

RESULTS IN BRIEF

Region 4 Needs to Expand and Improve Its Oversight

Region 4 needs to expand and strengthen its oversight of North Carolina's NPDES program. The need for these actions is emphasized by the fact that Region 4 did not have reporting procedures in place which would inform them about whole effluent toxicity (WET) violations or continuing problems with minor permitted facilities in the State. In addition, the Region did not generally overfile, or take comparable actions, to supplement State efforts to maintain water quality and improve the environment when violations continued and the State had not negotiated Special Orders by Consent (SOCs) with permittees to achieve compliance. Since the Region was not aware of the

WET violations we reviewed, or the continuing problems with the minor facilities we reviewed, the Region could not adequately oversee the State's efforts to improve water quality.

North Carolina Has Strengthened Its Enforcement Program

The State implemented a new enforcement policy on July 1, 1998 which appeared to have caused more facilities to come into compliance with their NPDES permits. North Carolina Department of Environment and Natural Resources' (NCDENR) reports indicated that the overall compliance rate for NPDES facilities rose from approximately 80 percent during the eight-year period before 1998 to more than 87 percent during the first half of 2000. Also, the State established a public website which provided extensive, useful information about its NPDES enforcement actions to the public.

Additional Improvement Needed in State Enforcement Efforts

However, North Carolina needed to improve its enforcement efforts to ensure compliance with NPDES permit requirements. Further improvement was needed in identifying daily and weekly violations of NPDES permit limits, obtaining agreements to achieve compliance, and incorporating economic benefit analysis into enforcement actions. If there was no monthly permit violation, North Carolina did not take timely enforcement actions for significant daily/weekly violations until there was a compliance inspection. In addition, North Carolina did not adequately identify similar violations by minor permittees within 30 days after these violations occurred. Improvements in the State's enforcement efforts were also needed because agreements with permit violators to obtain compliance were either not obtained or not obtained timely. In some cases, State officials did not obtain SOCs with permit violators because they believed permittees had already taken sufficient actions to achieve compliance. In other cases, SOCs were not obtained timely because State officials believed State/EPA Memorandum of Agreement (MOA)-specified time frames were unrealistic and, therefore, did not attempt to meet those time frames. Further, economic benefit gained by violators resulting from noncompliance was not adequately considered when penalties were assessed because State officials believed

other enforcement actions were sufficient to bring NPDES permit violators into compliance.

State Needs to Develop a Stormwater Compliance Program

North Carolina did not routinely inspect stormwater industrial sites, monitor inspections of non-construction stormwater sites, or review stormwater self-monitoring reports. North Carolina officials indicated they did not have the resources to develop a stormwater compliance strategy and program even though EPA studies, as well as State water quality data, have shown pollution resulting from stormwater runoff was a significant water quality concern. Moreover, implementation of Phase II of the stormwater program will significantly increase the number of stormwater sites requiring NPDES permits.

State Should Phase in Use of More Sensitive Test Methods

The test methods used by North Carolina's NPDES facilities were not always sensitive enough to determine compliance with permit limits for certain pollutants. Improved test methods have recently been developed which were more sensitive than the methods used by NPDES permittees in the State. The usefulness of North Carolina permit data was significantly diminished because the tests used by NPDES facilities were not capable of determining whether the permittee was in compliance with these limits. In addition, the accuracy of water quality analysis and reports can be affected if the most sensitive and accurate discharge data is not available.

State Permits for Animal Feeding Operations Do Not Adequately Address Four Key Provisions of NPDES Permits

North Carolina did not issue NPDES permits to facilities that were subject to applicable federal CAFO regulations. According to EPA Region 4 officials, the State resisted EPA's efforts to induce the State to issue NPDES CAFO permits. We found that North Carolina's animal feeding operations (AFO) permits did not adequately address the following key provisions when compared to NPDES CAFO permit requirements; Federal enforceability, adequate third party lawsuit coverage, sufficient public notice, and EPA oversight. Without these key NPDES provisions in State permits, EPA Region 4's enforcement ability was hindered and the public was not adequately informed. Manure and waste water from AFOs have the potential to contribute pollutants such as nitrate and phosphorus, organic matter,

sediments, pathogens, heavy metals, hormones, and ammonia to the environment. Due to the potential for major environmental impacts caused by discharges from AFOs, it is important that the State's permits and permit program include all applicable NPDES provisions.

RECOMMENDATIONS

We recommend that the Regional Administrator:

- Develop procedures to ensure that failures to meet WET limits in State NPDES permits are recorded on quarterly non compliance reports (QNCRs), or are otherwise recorded so that this data may be used to monitor progress made in resolving such violations.
- Develop procedures to obtain the information needed to exercise adequate oversight over problem minor facilities in North Carolina.
- Review the major problem facilities which are identified in North Carolina's QNCRs and the minor problem facilities which are identified in the State's summary records, to evaluate the need to overfile or take comparable enforcement action when necessary, and require that such overall evaluations be made periodically, at least annually, for all problem permittees.

We also recommend that EPA's Regional Administrator ensure that North Carolina:

- Detect exceedances of daily and weekly NPDES permit limits within 30 days after receipt of the discharge monitoring reports (DMR). In the absence of Compliance Monitoring System (CMS) software enhancements, or other better means of identifying such exceedances, we recommend that the Regional Administrator encourage the State to require that DMRs be manually reviewed for daily and weekly exceedances of NPDES element limits in instances where NPDES permits do not contain monthly permit limits.

- Use SOCs, as appropriate, when permit violations persist and State waters are being polluted and, when delays occur in reaching such agreements, account for those delays.
- Adequately incorporate consideration of economic benefit for noncompliance by permit violators in the State's penalty assessments against repeat offenders, and ensure that training on the use of the BEN model (a system for estimating economic benefit) is provided to State officials, as necessary.
- Evaluate its current NPDES compliance activities and resource allocation to determine whether resources could be obtained to implement an adequate stormwater compliance program.
- Develop plans to phase in the use of test methods with the lowest reporting limits for analyzing wastewater effluent concentrations of total residual chlorine and mercury.
- Issue NPDES permits to all facilities that meet the Federal definition of a CAFO. If no such agreement can be reached, we recommend that the Regional Administrator consider withholding an appropriate portion of Clean Water Act (CWA) Section 106 Water Grant funding relating to State permitting activities.

**EPA REGION 4
COMMENTS**

EPA Region 4 generally agreed with our draft report findings and conclusions and agreed to work with North Carolina to resolve many of our recommendations. Region 4 officials agreed to work with North Carolina to collaboratively construct an action plan to overcome and/or clarify issues in North Carolina's implementation of the CWA program as well as EPA's role in oversight of the delegated program.

However, Region 4 officials found our recommendations concerning increased EPA oversight of minor facilities

troublesome inasmuch as their ability to oversee the State's regulation of minor facilities is limited by available resources as well as CWA regulations and policy. Nevertheless, Region 4 officials indicated they would address minors as resources permitted through a variety of tools, such as sampling during file reviews and requests to the State for pertinent information on violations and enforcement actions.

STATE COMMENTS

The NCDENR's Division of Water Quality (DWQ) had concerns with some of our recommendations. However, they indicated that they would work with EPA Region 4 staff to develop a plan to address the issues we raised in our report. North Carolina indicated their concern that our report did not recognize their accomplishments in their water quality program. The State indicated that our report left them with the impression that they must address every violation with a formal enforcement action. They believed that a manual review of DMRs to pick up daily/weekly violations would be a misuse of their resources. Further, the State indicated that they disagree that they should be using SOC's more often and in a timelier manner. North Carolina believes that factoring economic benefit of non-compliance more thoroughly into their assessments would detract from the timeliness of their assessments. The State indicated they plan to work with EPA to develop a plan for implementation or phase in of new test methods. Also, the State indicated that resource limitations had prevented them from more fully implementing stormwater monitoring and compliance activities. Finally, the State disagreed that they had resisted EPA Region 4's efforts to induce them to issue NPDES permits.

OIG EVALUATION

We agree that EPA Region 4's main focus should continue to be on monitoring the State's oversight of major facilities. However, we believe that the Region should use State summary records and any other available information to monitor the State's oversight of minor facilities. We believe that the anticipated joint action plan proposed by Region 4 and the State could significantly help in reaching this goal. We have retained our recommendations in this report pending our determination that the anticipated

EPA/State action plan satisfactorily resolves those recommendations.

In response to the State's concerns that we did not recognize their water quality program accomplishments, we have added that information to our final report where we were able to identify and evaluate specific accomplishments related to State program activities covered in our scope of work. The MOA did not require a formal enforcement action after every violation. In accordance with their MOA, we believe every violation that was reflected in a DMR should have been identified by a State representative. We did not suggest that the State must address every violation with a formal enforcement action. The State is required by their MOA with EPA Region 4 to factor in an evaluation of the economic benefit of non-compliance in their penalty assessments. Such an evaluation could be done on a case by case basis, concentrating on more severe and repeated violations, as provided for in the MOA.

We continue to disagree with the State's assertion that their enforcement policy fulfills the commitment they made in their MOA to take formal enforcement actions. The State's enforcement actions, other than negotiating SOCs, did not obtain the permittees' commitment to take specific, tangible actions to achieve compliance by a specific time in the future. Based on our discussions with EPA Region 4 and State officials, we revised the wording of the draft report's recommendation to clarify that we are not recommending that the State reallocate resources to the stormwater program. We are recommending that EPA and the State conduct an evaluation to determine whether it makes sense to reallocate existing resources to the stormwater program.

According to several key EPA Region 4 officials, North Carolina has resisted efforts to issue NPDES CAFO permits. We recognize that EPA Region 4 has not responded formally to North Carolina's request for functional equivalency dated Sept. 29, 1999. However, EPA Region 4 has informally informed North Carolina that

EPA would not grant North Carolina functional equivalency. In addition, North Carolina's original request for functional equivalency was based on North Carolina's current program which did not incorporate all of the necessary NPDES requirements. We recognize that the North Carolina permit program may be more stringent in areas outside of the two cited in our report. However, this does not relieve North Carolina from the requirement of issuing permits that include all applicable regulatory provisions.

EPA Region 4's and North Carolina's responses have been included as appendixes to this report.

TABLE OF CONTENTS

	Page
EXECUTIVE SUMMARY	i
ABBREVIATIONS	xiii
CHAPTERS	
1 INTRODUCTION	1
Purpose	1
Background	2
Scope and Methodology	7
Prior Audit Coverage	8
2 EPA REGION 4 NEEDS TO EXPAND AND STRENGTHEN ITS OVERSIGHT OF NORTH CAROLINA’S NPDES PROGRAM	9
Region 4 Was Not Aware of Continuing Noncompliance With WET Limits	9
Region 4 Generally Did Not Monitor The Status of Minor Facilities That Polluted North Carolina Waters	12
Region 4 Generally Did Not Take Unilateral Action Against Facilities That Remained in Continuous Noncompliance With Their NPDES Permits	14
Conclusion	15
Recommendations	16
EPA Comments and OIG Evaluation	16
3 ADDITIONAL IMPROVEMENT IS NEEDED BY NORTH CAROLINA TO ENSURE THAT ENFORCEMENT ACTIONS ARE TIMELY AND APPROPRIATE	19
MOA Requirements	19
Enforcement Actions Are Not Always Taken Promptly for Violations of Daily Or Weekly Permit Limits	22
Improvement Is Needed in Forging Agreements Which Bring About Compliance With NPDES Permit Limits	26
North Carolina Did Not Adequately Consider Economic Benefit of Noncompliance When Assessing Civil Penalties	31
Conclusion	34

North Carolina NPDES Enforcement and EPA Region 4 Oversight

	Recommendations	35
	State Comments and OIG Evaluation	35
4	NORTH CAROLINA NEEDS TO IMPROVE ITS STORMWATER COMPLIANCE MONITORING AND ENFORCEMENT PROGRAM	39
	NPDES Stormwater Requirements	39
	Compliance With Stormwater Requirements Not Routinely Monitored	42
	Minimal Resources Were Devoted to Stormwater Compliance	43
	Stormwater Contributes Significantly to Stream Impairment	43
	Conclusion	44
	Recommendation	45
	EPA and State Comments and OIG Evaluation	45
5	TEST METHODS USED BY NPDES FACILITIES WERE NOT ALWAYS SENSITIVE ENOUGH TO DETERMINE COMPLIANCE WITH PERMIT LIMITS	47
	North Carolina NPDES Testing Requirements	47
	Some Minor Facilities Did Not Use the Most Sensitive Test Available for Total Residual Chlorine	49
	New Test Method Should Provide Needed Sensitivity to Evaluate Compliance With Mercury Limits	51
	State and EPA Unable to Evaluate Permit Compliance and Potential Impact of Discharges on the Environment	54
	Conclusion	5
	Recommendations	56
	EPA and State Comments and OIG Evaluation	56
6	NORTH CAROLINA’S ANIMAL FEEDING OPERATIONS SHOULD BE PERMITTED UNDER NPDES REQUIREMENTS	59
	NPDES/CAFO Regulatory Background	60
	State AFO Permitting	61
	Potential Environmental Impact of CAFO Discharges	62
	North Carolina’s AFO Program Did Not Adequately Address Four Key NPDES Provisions	63
	Conclusion	65
	Recommendation	66
	EPA and State Comments and OIG Evaluation	66
	OTHER MATTERS	69
	EXHIBITS	
1	SCOPE AND METHODOLOGY	77

North Carolina NPDES Enforcement and EPA Region 4 Oversight

2	SCHEDULE OF TIME REQUIRED TO OBTAIN SOCs	79
3	DISCREPANCIES BETWEEN MONITORING REPORTS AND PCS REPORTS ..	81
4	ENDNOTES	83

APPENDICES

1	EPA REGION 4 RESPONSE TO THE DRAFT AUDIT REPORT	85
2	NORTH CAROLINA DENR'S RESPONSE TO THE DRAFT AUDIT REPORT ...	87
3	REPORT DISTRIBUTION LIST	99

[This page intentionally left blank.]

ABBREVIATIONS

AFO	Animal Feeding Operation
BEN	Economic Benefit of Noncompliance
BMP	Best Management Practices
BOD	Biochemical Oxygen Demand
CAFO	Concentrated Animal Feeding Operation
CFR	Code of Federal Regulations
CMS	Compliance Monitoring System
CWA	Clean Water Act
DMR	Discharge Monitoring Report
DWQ	NCDENR Division of Water Quality
EMS	Enforcement Management System
EPA	U. S. Environmental Protection Agency
GPRA	Government Performance Results Act
MOA	Memorandum of Agreement
MS4	Municipal Separate Storm Sewer Systems
NCDENR	North Carolina Department of Environment and Natural Resources
NPDES	National Pollutant Discharge Elimination System
NOV	Notice of Violation
OECA	Office of Enforcement and Compliance Assurance
OIG	Office of Inspector General, EPA
PCS	Permit Compliance System
QNCR	Quarterly Non Compliance Report
RTP	Research Triangle Park
RNC	Reportable Non Compliance
SNC	Significant Non-Compliance
SOC	Special Order by Consent
SOWC	Special Order Without Consent
S&W	Soil & Water Conservation
TMDL	Total Maximum Daily Load
ug/l	Micrograms per liter
WET	Whole Effluent Toxicity

[This page intentionally left blank.]

CHAPTER 1

INTRODUCTION

PURPOSE

This audit is one of several regional and state National Pollutant Discharge Elimination System (NPDES) enforcement related audits conducted by the Office of Inspector General (OIG) to evaluate the performance of state enforcement programs.

Our objectives were to determine whether:

- EPA Region 4 has provided sufficient oversight to ensure that states operate an adequate compliance monitoring and enforcement program, and whether North Carolina had:
- taken timely and appropriate action against major NPDES facilities in significant noncompliance with their permit conditions,
- taken timely and appropriate action against minor NPDES facilities that violated their permit conditions, adequately monitored permittee compliance to detect and resolve instances of noncompliance,
- developed a permit for concentrated animal feeding operations (CAFOs) that provided all required Clean Water Act (CWA) statutory and NPDES regulatory provisions and was subject to EPA review and enforcement, and
- adequately maintained State data in EPA's national database for tracking NPDES permit compliance.

BACKGROUND

The Federal Water Pollution Control Act of 1972 initiated a broad Federal effort to restore and maintain the Nation's

waterways, including the creation of a permit program to regulate and reduce point source pollution. In 1977, Congress reauthorized and renamed the 1972 Act as the CWA. Congress amended the CWA in 1987. The CWA established EPA's responsibility for the implementation of the NPDES program.

The CWA required that all point sources discharging pollutants into waters of the United States obtain an NPDES permit. 40 Code of Federal Regulations (CFR) Part 122.2 defined point sources as "any discernable, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged." NPDES permits were issued as general or individual NPDES permits. General permits authorized a category of discharges within a geographical area and applied a set of generic requirements to all facilities covered under the general permit. Individual permits were issued to a specific facility and the permit conditions were specific to that facility.

Several categories of discharges were covered under the NPDES program. More common categories include municipal waste water and industrial process waste water. Stormwater run-off discharges associated with industrial activity and large and medium municipal separate stormwater systems (MS4) were also considered point sources under the CWA and were required to have NPDES permits. Under Phase I of EPA's stormwater regulations, facilities required to obtain NPDES permits included construction sites of five acres or more, certain industrial sites (e.g., landfills, junkyards) and MS4 facilities serving populations of more than 100,000. Certain animal operations, primarily those housing over 1,000 animal units and having a discharge into the waters of the United States, were considered CAFOs and subject to NPDES permit requirements.

In EPA Region 4, all NPDES permitting and enforcement authority had been delegated to appropriate state agencies, with the exception of Florida Stormwater and Sludge regulation, in all states. As required by Federal regulation, each state had entered into a Memorandum of Agreement (MOA) with Region 4 which outlined the conditions of the delegation of the program to the state. EPA Region 4 provided partial funding for state NPDES programs through the CWA Section 106 FY 1999 Grant Program to five states in Region 4 totaling approximately \$2.8 million (Georgia, Mississippi and South Carolina funding were not included in this total because such funding was incorporated in Performance Partnership Grants to these states). Although states had the opportunity to combine their various program specific grants into performance partnership grants in FY 2000, all states in Region 4, except Georgia, received their FY 2000 funding for their NPDES programs through a separate Section 106 grant.

NPDES Reporting

NPDES facilities were generally classified as major or nonmajor (i.e., minor) and as municipal or non-municipal. Federal regulations required different levels of reporting depending upon the classification of the NPDES facility. NPDES implementing regulations allowed EPA's Regional Administrators and state officials to define "major" and "minor" facilities. EPA's primary consideration that differentiated a major municipal facility from a minor municipal facility was a flow rate of one million gallons of water a day from a facility that serviced a population of 10,000 or more. EPA's complete definition of a major permittee was: 1) any municipal permittee having a design flow of one million gallons per day or greater servicing a population of 10,000 or greater, or having a significant impact on water quality; 2) any non-municipal permittee having an industrial rating of 80 or higher (signifying a relatively higher risk to the environment); 3) any permitted federal facility meeting the criteria for a major municipal or non-municipal as appropriate; and 4) any discretionary major permittee allowed within the limits established by EPA Headquarters.

The types of pollutants or parameters limited by an NPDES permit generally included oxygen demand, solids, nutrients, minerals, and metals. Some facilities were also required to monitor for whole effluent toxicity (WET). WET testing consisted of tests to determine if the effluent is toxic to certain organisms. If the facility's effluent was determined to be toxic beyond established limits, additional testing and analysis may have been required to determine the pollutants which caused the toxicity and the source of these toxic pollutants.

States and EPA primarily monitored an NPDES facility's compliance with its permit conditions through discharge monitoring reports (DMR) submitted by the facility. Facilities were required to regularly sample and analyze their effluent (discharge) and record the results of this testing on DMRs which were submitted to the state. The results reported on the DMR were compared to the limits established in the facility's permit to determine compliance. As part of Region 4's delegation of the program, states were required to have a quality assurance program in place to assure the quality of the laboratories performing analyses of the effluent samples.

40 CFR Part 123.45 required that EPA prepare, or in the case of delegated programs, the states prepare and submit to EPA, Quarterly Non Compliance Reports (QNCRs) for major NPDES facilities. This report provided information on facilities that were in non-compliance with their permit conditions, the nature of the violation, and the type of enforcement action taken, if any, in response to those violations.

40 CFR Part 123.45 also required states to report on their compliance and enforcement activities related to nonmajor (minor) facilities. The reporting requirement for minor facilities was not as frequent as the requirement for major facilities. The state was required to submit an annual report providing the number of minor permittees reviewed, the number of minor permittees in non-compliance, the number of enforcement actions taken, and the number of permit modifications extending compliance deadlines.

EPA established the Permit Compliance System (PCS) as the national database for NPDES reporting and to provide an overall inventory for the NPDES program. The data gathered in PCS was to be used to respond to Congress and the Public; encourage a proper EPA/State oversight role by identifying major permit violators; and serve as an operational and management tool for tracking permit issuance, compliance, and enforcement actions. Beginning in Fiscal Year 1990, PCS has been used to generate QNCRs.

Although state delegated programs often used their own data bases for tracking permit compliance and enforcement, the states were required by their MOA with EPA and CWA Section 106 grant workplans to enter their permit, compliance and enforcement data into PCS.

Regional Oversight

A key component of the EPA Region 4's oversight of state programs was to review state QNCRs and identify major permittees that were considered in significant non-compliance (SNC) with their permit conditions. SNC was a concept developed by EPA to identify and target those violations that were of a sufficient magnitude and/or duration to be considered a high enforcement response priority. Generally, a facility was considered to be in SNC if it had exceeded its monthly limit by 40% for any pollutant categorized as Group I (refer to 40 CFR Part 123.45 Appendix A) or by 20% for any pollutant categorized as Group II (refer to 40 CFR Part 123.45 Appendix A) at a given discharge point for any two or more months during the six-month review period. Violations of any monthly limit at a given discharge point by any amount for four out of six months was also considered SNC.

If a facility was identified as SNC for two straight reporting quarters and the state had not taken a formal enforcement action, the Region placed the facility on the Active Exceptions List. The Region provided the Active Exceptions List to the state. Failure by a state to adequately address the sites on the Active Exceptions List could result in an enforcement action by EPA against the facility. Although there might have been some legitimate

justification for a facility to appear on the Active Exceptions List, EPA generally considered the Active Exceptions List to signify those cases where the state had failed to respond to the violations in a timely and appropriate manner.

North Carolina's NPDES Program

The North Carolina Department of Environment and Natural Resources's (NCDENR) Department of Water Quality (DWQ) was responsible for implementing the NPDES permit program in the State. DWQ comprised five sections, with the Water Quality Section having responsibility for operating the NPDES program. The Compliance and Enforcement Units within the Water Quality Section's Point Source and Non-Discharge Branches oversaw compliance and enforcement activities for NPDES point sources and animal feeding operations, respectively. The Aquatic Toxicology Unit monitored compliance with WET limits. The seven State regional offices were also responsible for compliance monitoring and enforcement activities. These activities included conducting on-site inspections of NPDES facilities, issuing notices of violation (NOV), and assessing civil penalties. Records provided by North Carolina showed the following number of NPDES permits by category as of April 2000.

Category	Number of Permits
Major Municipal	145
Major Non-municipal	100
Minor Municipal	164
Minor Non-municipal	1167
Industrial Stormwater	3552
Construction Stormwater	2800
Municipal Separate Storm Sewer	6
Total	7934

PCS contains enforcement and monitoring data for major permittees. PCS may contain descriptive information about minor and stormwater permittees, however, it does not contain enforcement or monitoring data about such permittees. As described earlier, EPA policy identified certain NPDES violators as SNC and expected formal enforcement actions within a certain time period to address these violations. This policy defined a formal enforcement action to include, among other things, actions to achieve compliance along with a timetable for achieving such compliance. However, North Carolina's approach to addressing violations of NPDES permit limits, adopted in July 1998, did not implement EPA's definition of timeliness and appropriateness for SNC violations. Under North Carolina's July 1998 enforcement procedures, State regional supervisors were delegated the authority to issue NOVs and assess specific penalty amounts, when appropriate, for exceedances of some NPDES permit items. When monthly penalties failed to bring a facility into compliance, the State considered other enforcement options, such as encouraging permittees to negotiate Special Orders by Consent (SOCs) to address the non-compliance. The civil penalties assessed by North Carolina under their enforcement policy did not meet EPA's definition of formal enforcement actions, largely because they did not include specific actions or time schedules to achieve compliance. However, North Carolina's SOCs did meet EPA's definition of formal enforcement actions. Chapter 3 discusses North Carolina's use of SOCs and penalties in greater detail.

**SCOPE AND
METHODOLOGY**

We performed our audit in accordance with the Government Auditing Standards (1994 Revision through July 1999 Amendment 2) issued by the Comptroller General of the United States as they apply to program audits. Our review included tests of the program records and other auditing procedures we considered necessary. We conducted our fieldwork from January 2000 through June 2000. We performed our fieldwork at EPA Region 4 Offices in Atlanta, Georgia; at the NCDENR Central Office in Raleigh, North Carolina; and at NCDENR Regional

Offices in Raleigh, Asheville, Fayetteville, Winston-Salem, Raleigh, Washington, and Wilmington. See Exhibit 1 for methodology details.

**PRIOR AUDIT
COVERAGE**

No recent OIG or U.S. General Accounting Office audit reports have been issued related to Region 4's oversight of state delegated NPDES enforcement programs or of North Carolina's enforcement of its NPDES program. In 1989, the OIG issued a report on EPA Region 4's NPDES enforcement program. The OIG issued a report on Region 10's NPDES program in March 1998. The Region 10 Audit, which reviewed non-delegated programs operated by the Region, found that Region 10's compliance monitoring activities could be improved and that the Region often did not take formal enforcement actions against significant violators. Finally, the OIG issued a Special Review Report in 1997 which detailed the results of a review of North Carolina's animal feeding operations permit program. This review concluded that certain provisions of North Carolina's program were more stringent than related Federal NPDES program provisions for CAFOs, and recommended that EPA take several actions to strengthen the Federal CAFO program.

CHAPTER 2

EPA REGION 4 NEEDS TO EXPAND AND STRENGTHEN ITS OVERSIGHT OF NORTH CAROLINA'S NPDES PROGRAM

EPA Region 4 officials did not have reporting procedures in place which would have informed them about continuing problems with WET violations by major and minor permittees in North Carolina. Further, Region 4 officials were not exercising oversight over permitted facilities in North Carolina classified as minor facilities because guidance provided by EPA's Office of Enforcement and Compliance Assurance (OECA) encouraged EPA's regional offices to focus their enforcement efforts on major facilities. In addition, Region 4 generally did not overfile, issue administrative orders, or take other comparable enforcement actions against facilities in the State with continuing NPDES permit violations during the period of our review. Regional officials indicated they did not take these actions because their resources were committed to other initiatives. Since the Region was not aware of the WET violations we reviewed, or the continuing problems at the minor facilities we reviewed, the Region could not work with the State to improve water quality in those important areas. If the Region had been aware of these problems and had taken action, the exceedances of NPDES permit limits that have continued might have been reduced or eliminated with resultant improvement in water quality.

REGION 4 WAS NOT AWARE OF CONTINUING NONCOMPLIANCE WITH WET LIMITS

Region 4's procedures for overseeing North Carolina's WET program did not ensure that the Region was aware of continuing permittee violations of WET limitations. As a result, the Region did not exercise adequate oversight over North Carolina's program to ensure compliance with NPDES WET permit requirements.

The CWA allows EPA to delegate implementation of the NPDES program to a qualifying state while retaining overall responsibility for the program. For example, Section 1319 of the US Code: Title 13, which is part of the codification of the CWA, states that when “. . . The Administrator finds that any person is in violation of any condition or limitation . . . in a permit issued by a State under an approved permit program . . . he shall proceed under his authority . . . to notify the State . . . [and if] the State has not commenced appropriate enforcement action, the Administrator shall . . . [take enforcement action].”

As of April 11, 2000, the State’s WET database showed that four facilities had been put on SOCs to address continuing WET violations. Further, the Aquatic Toxicology Unit’s monthly report dated March 15, 2000 showed that four facilities (not the same four facilities discussed in the prior sentence) had incurred six or more violations of their WET limits in the year ending January 31, 2000. Region 4 officials were not aware that [NC City A] Wastewater Treatment Plant frequently failed to pass the WET limits in its NPDES permit for over a decade. The Plant failed eight of 10 tests in 1998, nine of 10 tests in 1999, and the last nine tests it took through March 2000, the last month shown in the summary record we reviewed. The Plant did not submit a test report for January or February of 2000 and failed the test in March. Since the beginning of 1996, the Plant passed nine tests, failed 27, and did not submit data for four months. Further, the Plant has not passed a WET test during the fourth quarter since 1994, and failed at least one WET test each year since 1990.

[NC City A] toxicity problems were clearly identified in readily available summary records at the State’s central and field offices. The State issued NOVs and assessed penalties regularly during this period. For example, the State issued NOVs and assessed penalties for seven months of violations in 1998 and six months of violations in 1999. State officials indicated the City had hired a contractor to study the situation in 2000 and various options were being

considered to correct the problem including a construction project.

Region 4 officials did not have reporting procedures in place which ensured that they learned about continuing problems with WET in North Carolina. WET test results for North Carolina were not entered into PCS.

Accordingly, WET test results were not recorded in QNCRs. Sometimes notations were made manually in QNCRs about penalties for WET violations. For example, we saw a notation for [NC City A] in a QNCR that penalties were “assessed for toxicity violations.” However, these notations did not communicate the severity of the problem by identifying how many times the violations had occurred, or the time period of continuous problems.

The EPA Region 4 Coordinator for North Carolina indicated he relied on the Region 4 WET Coordinator to monitor toxicity issues. The WET Coordinator indicated she had not received any summary reports which identified the [NC City A] problem. She stated that she performed a field review of each state in the Region every two years. During those field reviews she asked state representatives to tell her about permittees who had difficulty passing the WET tests. During the reviews she selected samples of permittees for detailed review. She also conducted a six-month and annual review of each state in the Region. Neither these reviews, nor her visits to North Carolina, disclosed the continuing WET problem at [NC City A].

Since the Region was not aware of these continuing failures to meet WET requirements, it did not fulfill its responsibility to help ensure that the State’s waterways were meeting NPDES permit limits. If Regional personnel had been aware of the continuing toxicity violations at [NC City A] over the last eleven years, they could have worked with State officials, obtained a SOC, resolved the toxicity problems and cleaned up [NC City A] waters many years earlier.

**REGION 4 GENERALLY
DID NOT MONITOR THE
STATUS OF MINOR
FACILITIES THAT
POLLUTED NORTH
CAROLINA WATERS**

Region 4 intentionally focused its oversight on major permittees in accordance with national guidance provided by OECA. OECA encouraged EPA Regions to focus on permittees who were in SNC and, since only majors were considered to be in SNC, only majors appeared in QNCRs, a primary reporting tool for overseeing the NPDES program. However, available information indicated that minor facilities in North Carolina may have had a significant adverse impact on the quality of some State waterbodies.

According to the Chief of NCDENR's Point Source Compliance/ Enforcement Unit, nine of 10 State penalty assessments during 1999 were against minor facilities. The importance of minor facilities was indicated by the fact that North Carolina treated violations by minor facilities exactly the same as violations by major facilities. The type of problems and the importance of monitoring minors was illustrated by two wastewater treatment plants that were operated by [NC Town B] and [NC Company C], a private corporation.

[NC Company C] NPDES permit allowed the privately owned treatment plant to discharge a maximum of 50,000 gallons of water each day. However, for 17 of the 20 months between August 1998 and March 2000, the monthly average of [NC Company C] discharges exceeded this limit. The State regional official who worked with [NC Company C] told us that [NC Company C] had difficulty meeting its flow limits since 1996. She indicated that, generally speaking, when discharge rates consistently approach 80% of the NPDES limit, consideration should be given to expanding the wastewater treatment plant, and when discharge approaches 90% of the NPDES permit limit, work on plant expansion should have already begun. She stated that [NC company C] discharge was recently 121% of its NPDES permit limit.

State regional officials tried to persuade the owner of the facility to apply for a SOC, but the owner had not done so. State regional officials assessed penalties on the facility regularly, however, no payment was received from the

facility for the last 12 assessments we reviewed. These 12 assessments, amounting to \$19,240, were for violations between September 1998 and November 1999. The State Regional Supervisor told us the facility owner, who lived out-of-state, indicated he did not have funds to fix the flow problem or pay the State assessments. The owner was reportedly trying to find another party over the last two years to take over the facility. State regional officials had been trying unsuccessfully for several years to get an adjacent city, the county, or a neighboring military base to take over the services provided by [NC Company C].

The Wastewater Treatment Plant in [NC Town B] is illustrative of minor facilities that have experienced continuing monitoring and permit limit violation problems. This Plant failed to monitor six items in its NPDES permit during three of the nineteen months from July 1998, through January 2000; failed to monitor one or more items in its NPDES permit during six of these months; either failed to monitor for biochemical oxygen demand (BOD) or exceeded the BOD permit limit, for nine of these months; and exceeded the permit limit for ammonia nitrogen for eight of these months. The Plant had four operators since February of 1999, including an operator who was fired after he attempted to bury unstabilized sludge without a permit. The Town applied for a temporary certification for the current operator because the plant was a Grade 2 facility but the operator was only certified for a Grade 1 facility. On May 12, 2000, State Regional Office officials performed a Compliance Evaluation Inspection and “the Plant was found to be **NonCompliant**” (this emphasis was contained in the Regional Office memorandum).

Various guidance documents envision EPA’s regions having at least a limited role in overseeing minors. For example, on October 2, 1989, the Office of Water issued its Revised Enforcement Management System (EMS) guidance which identified seven basic principles that were common to an effective EMS. The first principle was to maintain a source inventory that was complete and accurate. This guidance stated: “The inventory data for majors and significant minors [emphasis added] should be

entered directly into the Permit Compliance System (PCS, the automated NPDES data base), where it exists, in a timely manner . . . ” Further, 40 CFR Part 123.45 required states to report on their compliance and enforcement activities related to minor facilities. States were required to submit annual reports detailing the number of minor permittees reviewed, the number of minor permittees in non-compliance, the number of enforcement actions taken, and the number of permit modifications extending compliance deadlines. North Carolina has not provided this report to Region 4 and we found no evidence that the Region has insisted that it be provided.

If Region 4 had followed the guidance in the CFR and EMS, it would have been aware of the problems in the two facilities described above. Since Region 4 officials were unaware of these problem minor facilities, they were unable to either take unilateral action, or support the State’s efforts to bring these problem facilities into compliance with their NPDES permits.

**REGION 4 GENERALLY
DID NOT TAKE
UNILATERAL ACTION
AGAINST FACILITIES
THAT REMAINED IN
CONTINUOUS
NONCOMPLIANCE
WITH THEIR NPDES
PERMITS**

Region 4 generally did not overfile¹, issue administrative orders, or take other comparable actions against municipal facility violators in North Carolina in 1998 or 1999. We identified only one case during the period of our review where Region 4 took comparable enforcement action against a North Carolina facility which had violated its NPDES permit limitations. On June 19, 1998, Region 4 overfiled and issued an administrative order against one industrial facility with an NPDES permit, the [NC City D] Plant of the [NC Corporation E]. We identified five cases where the State did not negotiate a SOC even though the permittees remained in SNC from approximately six to 45 months (see Exhibit 2). In our opinion, Region 4 should have either overfiled or made a determination that overfiling was not necessary.

EPA’s MOA with the State provided that when EPA determined that the State had not initiated timely and appropriate enforcement actions for permit violations, EPA could have proceeded with any or all enforcement options

available under the CWA. These options included overfiling and issuing administrative orders.

As described in the next chapter of this report, the State did not meet EPA's guidance for obtaining SOC's timely in the SNC cases we reviewed. Moreover, some of these cases involved facilities that had been in continuous noncompliance for extended time periods. For example, [NC Town F] Wastewater Treatment Plant was in continuous noncompliance for mercury from September of 1997 through at least March of 1999. Further, we found no indication that Region 4 officials discussed the need for a SOC with State officials, or that the Region considered initiating its own action in this case.

Region 4 officials indicated that their NPDES oversight work demands increased in recent years while their resources remained constant or decreased. Accordingly, their resources for overseeing the delegated NPDES program were limited. For example, the Chief of Region 4's Water Programs Enforcement Branch indicated that only one Regional official was assigned to oversee the WET program and this official was unable to devote her full time to this responsibility.

When permittees have not complied with NPDES permit limits over an extended period of time, water quality may have continued to be impacted. If Region 4 had overfiled or taken comparable enforcement action in the permit violation cases we reviewed, North Carolina's water quality might have been substantially improved during that period.

At the end of our fieldwork, the Region 4 PCS Manager informed us that the State had entered WET data into PCS during July 2000. Also, at the end of our fieldwork, the OIG was conducting a national audit of EPA enforcement which included issues related to nationwide enforcement of WET violations.

CONCLUSION

Region 4 needs to expand and strengthen its oversight of North Carolina's NPDES program. The need for these actions is emphasized by the fact that Region 4 did not have

reporting procedures in place which would inform them about WET violations or continuing problems with minor facilities. In addition, the Region did not generally overfile, or take comparable actions, to supplement State efforts to maintain water quality and improve the environment. Since the Region was not aware of the WET violations we reviewed, or the continuing problems at the minor facilities we reviewed, the Region could not adequately oversee the State's efforts to improve water quality. If the Region had adequate information and had taken action when necessary, the exceedances of NPDES permit limits that have continued might have been reduced or eliminated with resultant improvement in the water quality of the State.

RECOMMENDATIONS

We recommend that the Regional Administrator

- Develop procedures to ensure that failures to meet WET limits in NPDES permits are recorded in the State's QNCRs, or are otherwise recorded so that this data may be used to monitor the progress that is being made in resolving such violations.
- Develop procedures to obtain the information needed to exercise adequate oversight responsibility over problem minor facilities in North Carolina.
- Review the major North Carolina problem facilities which are identified in QNCRs and the minor problem facilities which are identified in the State's summary records, to evaluate the need to overfile or take comparable enforcement action when necessary, and require that such overall evaluations be made periodically, at least annually, for all problem permittees.

**EPA REGION 4
COMMENTS**

EPA Region 4's Water Management Division Director agreed with the facts that were contained in the Chapter and indicated that discussions were already underway with the State to develop an action plan to address the resolution of the recommendations in the Chapter. However, the Director also indicated that resource constraints would limit the amount of oversight that the Region could devote to

monitoring the State's enforcement actions with minor facilities and the Region would still have to focus its resources on monitoring the State's oversight of major facilities.

OIG EVALUATION

We agree that EPA Region 4's resources should be focused on monitoring the State's oversight of major facilities. However, for the reasons we cited in this Chapter, we continue to believe that the Region should also oversee the State's minor facilities' NPDES enforcement activities and should use the State's summary information already available to accomplish this responsibility. We believe that the anticipated joint action plan proposed by EPA Region 4 and the State, once implemented, could significantly help in reaching this goal. We have retained our recommendations in this Chapter pending our review of the anticipated EPA/State joint action plan.

[This page intentionally left blank.]

CHAPTER 3

ADDITIONAL IMPROVEMENT IS NEEDED BY NORTH CAROLINA TO ENSURE THAT ENFORCEMENT ACTIONS ARE TIMELY AND APPROPRIATE

State of North Carolina officials did not take timely enforcement actions for significant daily and weekly violations until compliance inspections were done, or until there were violations of one or more monthly NPDES permit limits. This practice resulted in enforcement actions being delayed from nine to 15 months for four of the 17 major facilities we reviewed. In addition, this policy may have delayed enforcement actions against minor facilities for considerably longer periods, conceivably years. Also, State officials did not always negotiate agreements with permittees when necessary to achieve compliance because they did not agree that such agreements were practical or appropriate within the time frames specified in the State's MOA with EPA. Further, when assessing penalties, State officials did not adequately consider the economic benefits that might have accrued to permittees from continuing to operate without being in compliance with their NPDES permits. Because the State did not always take timely and appropriate enforcement actions in accordance with the guidance in its MOA with EPA, discharges may have continued into State waters in excess of the permit limits.

MOA REQUIREMENTS

North Carolina's MOA with EPA Region 4 required that North Carolina take timely and appropriate action against permittees who were in violation of compliance schedules, effluent limitations, pretreatment standards or other permit limits. The MOA further stated that timely enforcement action began with a written NOV to a major discharger within thirty (30) days of the State becoming aware that a violation had occurred, and actions against minor dischargers were of a lower priority but should have been

taken as quickly as possible. Under the Timely and Appropriate Guidance in the MOA, formal enforcement actions, with schedules to bring noncompliant major dischargers back into compliance, were expected generally within 60 days of facilities first becoming in SNC on QNCRs. A formal enforcement action for a noncompliant minor facility was expected as soon as possible. In its MOA with EPA, the State affirmed that it would conduct a timely and substantive review of all self-monitoring reports received and would evaluate the permittee's compliance status.

State Accomplishments and Enforcement Policy

The State implemented a new enforcement policy on July 1, 1998 which appeared to have caused more facilities to come into compliance with their NPDES permits. NCDENR reports indicated that the overall compliance rate for NPDES facilities rose from approximately 81 percent in 1997 to more than 87 percent during the first half of 2000. In addition, the reports highlighted the improvement trend by showing that during the eight-year period from 1990 through 1997, compliance rates never achieved the recent rate of 87 percent but, instead, consistently hovered around 80 percent and were never higher than 82.07 percent.

Prior to July 1, 1998, NOVs were not necessarily issued within 30 days after a violation was identified. Instead, NOVs were frequently issued at the time that a compliance inspection was done, which could be many months after a violation occurred. In contrast, the policy that was adopted in July 1998, required State regional water supervisors to issue NOVs automatically for most NPDES permit violations within 30 days after they became aware of a violation. The policy also required that an assessment be automatically made, in accordance with a prescribed schedule of penalty amounts for most types of violations, and included consideration of the percentage by which the permit limit was exceeded.

For example, State policy specified that a \$250 assessment would be made for violations of daily and weekly permit limits and a \$1,000 assessment would be made for violations of monthly permit limits. The policy provided

for assessments to be increased from 25 percent to 45 percent if there were more than three violations in a six-month period. The Director and Deputy Director of NCDENR and the Water Quality Section Chief retained the right to make the assessment decisions for certain types of enforcement actions. In addition, if a State regional supervisor felt a higher penalty was appropriate, he could forward the case to the Director who was authorized by Statute to assess civil penalties up to \$25,000 per day per violation of any permit limit. The State's enforcement policy increased the number and timeliness of NOVs and the total amount of assessments. NCDENR also put extensive and specific NPDES enforcement related data on their public web site. As indicated previously, there were indications that NCDENR's initiatives caused permittees to take actions more quickly to achieve compliance with their NPDES permits.

The State's 1998 enforcement policy was generally less stringent toward major dischargers than Region 4 required because, as explained in this Report, the State did not negotiate SOCs in accordance with the Region's guidance. However, to the State's credit, their enforcement policy toward minor dischargers appeared to be generally more stringent than the Region required inasmuch as the State issued NOVs against minor dischargers, with automatic penalty assessments where appropriate, within 30 days after identifying a violation. North Carolina's enforcement policy did not differentiate between major and minor dischargers regarding the issuance of NOVs or making penalty assessments.

Importance of Taking Timely Enforcement Action

The importance of taking timely enforcement action for exceedances of daily and weekly permit limits was indicated in a statement, dated September 21, 1995, by the Assistant Administrator of EPA's OECA: "... violations of the Non-Monthly . . . [NPDES permit limits] do pose a significant threat to the environment/public health." When NPDES permit limits are exceeded, enforcement actions should be taken timely to ensure that facilities are brought back into compliance as soon as possible.

**ENFORCEMENT
ACTIONS ARE NOT
ALWAYS TAKEN
PROMPTLY FOR
VIOLATIONS OF DAILY
OR WEEKLY PERMIT
LIMITS**

North Carolina NPDES permits contained daily or weekly limits for various elements, including mercury and cyanide but did not contain a monthly average limit for these latter two elements. When permit limits were tested, the values were recorded manually in DMRs by personnel at the permitted facility. This information was sent to the State's central office in the State Capital with State regional offices receiving a copy. Key data elements in the DMRs for majors and minors were recorded in the State's compliance monitoring system (CMS), and key data elements in the DMRs for majors were recorded in EPA's PCS. According to State officials, State personnel did not routinely review the DMRs for permit violations because of resource limitations.

The State's policies and procedures required that when a monthly permit limit was exceeded, the DMR for the month be reviewed by State regional officials in the field. Accordingly, if a monthly NPDES permit limit was exceeded at a facility in January, the facility's DMR for the month of January should have been reviewed by State regional officials, and all exceedances of daily and weekly limits should have been identified. Assessments should then have been made, where appropriate, for exceedances of monthly, weekly and daily NPDES permit limits. However, if there were no violations of a monthly limit, State regional officials did not normally review the DMRs for exceedances of daily or weekly permit limits. Therefore, these exceedances normally went undetected until a compliance inspection was done.

EPA guidance required that major facilities have a compliance inspection at least once a year and minor facilities at least once every five years. The State followed EPA's guidance concerning performing compliance inspections for major facilities and some State regional offices indicated they inspected minor facilities every year. However, at least one State regional office followed EPA's guidance and performed compliance inspections for minor facilities every fifth year. The State's policies and procedures also required that a year's DMRs be reviewed during compliance inspections. Any exceedance of a daily

or weekly permit limit that had not been detected before the compliance inspection should have been detected then. Accordingly, when compliance inspections were completed, NOVs were issued and assessments were made, as appropriate, for all daily and weekly violations that had not been assessed previously for that period. Therefore, a compliance inspection should have caused any delayed enforcement action to have been taken retroactively, when appropriate, at least once every year for major facilities and at least once every five years for minor facilities.

**Assessment Made 15
Months After Violation**

The effect of this policy was illustrated in four of the 17 major cases we reviewed. In these four cases State officials in the regional offices did not identify some daily or weekly exceedances until a compliance inspection occurred. In one of these cases, the oldest violation occurred 15 months before the inspection, and in the other three cases, the oldest violations occurred between nine and 14 months before the inspection. For example, a compliance inspection on December 4, 1998, revealed that the [NC Town F] Wastewater Treatment Plant in [NC Town F], exceeded its NPDES mercury limits in September 1997, 15 months earlier. No NOV had been issued for this violation at the time the compliance inspection began. Because of the compliance inspection, a NOV was issued on July 14, 1999, and an assessment of \$8,979.65 was made for 26 of 32 mercury violations. However, no assessment was made for six of the 32 violations, including the one in September 1997, because, according to an environmental engineer at the State regional office, they were instructed not to assess for violations that occurred more than a year before the date on which an assessment was made. The potential significance of the 15-month delay in issuing the NOV was underscored by correspondence from the State Director to a Town official, dated February 25, 2000, which stated:

The Division has identified . . . [NC Stream G] as an environmentally-impaired stream with designated poor water quality, non-supporting of its intended uses. Moreover, . . . [NC Plant F] is listed as a point source for this environmental impact².

As illustrated above, State regional officials in the field were not usually aware of daily or weekly violations, unless they were accompanied by monthly violations, until compliance inspections were done. This was true regardless of whether the violation was by a major or minor facility. State central office officials were similarly unaware of these type violations for minor facilities, but they were aware of such violations for major facilities. When DMR data from major facilities was processed in the State's central office, daily and weekly violations were identified and recorded in the QNCR. However, this information was not usually made available to State officials in the field. This condition was illustrated by the fact that one State regional supervisor asked us what a QNCR was.

Penalty Assessments for Violations of Daily Or Weekly Permit Limits Were Delayed

NCDENR's central office did not take enforcement action for the four cases mentioned above, or ensure that their field office took enforcement action, because NCDENR did not consider violations of daily or weekly permit limits, by themselves, to be sufficient justification for taking enforcement actions. They gave several reasons for this position.

First, NCDENR officials indicated that most of the time, a daily or weekly violation would not have occurred by itself, but would have been accompanied by a violation of a monthly permit limit. This consideration suggests to us that NCDENR believed the problem was too rare to warrant changing their current practices. However, all 17 of the permits we reviewed contained items that had only daily or weekly NPDES permit limits and four of the 17 cases we reviewed (23.5 per cent) experienced at least one violation of a daily or weekly permit limit, without a violation of a monthly permit limit.

Second, NCDENR officials indicated that if the facility was a municipality, it probably administered its own pretreatment program, was aware of the problems and was taking steps to resolve them. We noted that the violations in the four cases cited above continued for extended periods of time and were still being experienced by three of the four

facilities at the end of our fieldwork. Further, in our opinion, the existence of a pretreatment program did not offset the State's obligation to issue NOVs, or take other enforcement actions, as appropriate, to ensure compliance with NPDES permits.

Finally, NCDENR officials indicated that some of the permit parameter items that only have daily or weekly permit limits, such as mercury, are difficult to measure. False positives appear due to problems with sampling and testing techniques. In our opinion, the merits in this consideration did not preclude the issuance of a NOV, perhaps without a penalty assessment, if appropriate, or the commencement of other enforcement actions, as necessary. If there were valid reasons for establishing a daily or weekly NPDES permit limit, these same reasons provided a valid justification for taking enforcement action as soon as an exceedance was identified.

We believe that the State's practice with regard to enforcement of daily and weekly permit limits appears to be inconsistent. We question the State practice that requires an assessment to be made for a violation 12 months after it occurred, but would not make the same assessment for the same violation when the State first identified the violation over a year earlier. In our opinion, any valid reason for not making an assessment during the first month after a violation was identified would generally be equally valid a year later. However, in the four cases we reviewed, State central office officials knew that violations of a daily or weekly permit limit had occurred because this information appeared in the QNCR, but they did not take enforcement action as soon the violations were identified. Instead, State central office officials waited until a compliance inspection was performed by State regional office officials who, in some cases, issued NOVs for multiple violations that occurred over the preceding 12 months and made assessments for those violations. We believe taking enforcement action as soon as a violation is identified is more effective than taking the same enforcement action for the same violation a year later.

**NCDENR's Central Office
Did Not Provide Its QNCRs
To Its Field Offices**

NCDENR's central office did not provide QNCRs to State regional offices, or otherwise apprise State regional officials of violations of daily and weekly permit limits by major permittees about which the field offices were unaware. It appeared that State regional officials generally maintained periodic contact with the permittees and may have been able to use this information informally in their ongoing consultations to advise permittees how to solve their problems and, in general, to encourage permittees to achieve compliance.

**Potential Exists for
Extensive Delays in
Enforcement Actions
Against Minor Facilities**

In the four minor permittee cases we reviewed, multiple monthly violations were experienced and, therefore, violations of daily or weekly permit limits were identified. However, as described previously, daily and weekly violations at minor facilities which occurred without an accompanying monthly violation, could have remained unidentified until a compliance inspection was performed. This conceivably might not have occurred until years after a violation since minor facility compliance inspections might only have been conducted once every five years. In our opinion, NCDENR's practice of delaying enforcement actions for daily and weekly permit limit violations, as discussed above, did not fulfill its responsibility for taking timely and appropriate enforcement actions to protect the environment by ensuring compliance with its NPDES permits.

**IMPROVEMENT IS
NEEDED IN FORGING
AGREEMENTS WHICH
BRING ABOUT
COMPLIANCE WITH
NPDES PERMIT LIMITS**

The State did not follow EPA's guidance for taking formal enforcement actions because State officials did not agree that this guidance was appropriate in many situations. As a result, State agreements with permittees which required permittees to achieve compliance with their NPDES permits were either not reached, or not reached timely. Consequently, the elimination or reduction of pollutants in the State's waters may have been delayed.

**EPA Guidance Called for
An Agreement to Achieve
Compliance**

EPA Region 4's MOA with the State of North Carolina indicated that by the time a major permittee first appeared on a quarterly report of noncompliant permittees, the State was expected to have already initiated enforcement actions

to reach compliance. Further, before the permittee appeared on the next quarterly report for a violation of the same permit limit, the State should have taken a formal enforcement action. The MOA defined a formal enforcement action as an agreement that required actions to achieve compliance, specifies a timetable, “. . . contours consequences for noncompliance that are independently enforceable without having to prove the original violation, and subjects the person to adverse legal consequences for noncompliance . . .” The MOA further defined a formal enforcement action by the State of North Carolina as either a SOC with the permit violator or a Notice of Continuing Penalty. There were no issuances of Notices of Continuing Penalties for any case we reviewed. When we asked five of the State’s seven regional supervisors what type of enforcement actions they considered, no one mentioned this Notice. The EPA and State officials whom we interviewed either were not familiar with this Notice or did not believe this action was as useful as other enforcement actions.

The State was authorized to issue Special Orders Without the Consent (SOWC) of the permitted facility (North Carolina G.S. 143-215.2). However, State officials indicated that their general enforcement approach was to assess repeated fines where violations occurred and obtain SOCs when needed. They indicated that the issuance of unilateral orders could result in protracted court proceedings thus delaying compliance and tying up valuable staff time.

Agreements to Achieve Compliance Were Either Not Obtained Or Were Not Obtained Timely

During our review of case files for 17 major permittees, we did not find a case where the State met EPA’s guidance for obtaining a SOC³. We found that SOCs should have been obtained for 13 of the 17 major permittees, according to the criteria in the MOA. At the time we completed our field work, SOCs were still needed, according to these criteria, but had not been obtained for three of these 13 permittees. Of the remaining 10 permittees, four permittees came back into compliance and six permittees entered into SOCs.

In an example of a case where a needed SOC was not obtained, the State did not negotiate a SOC with [NC Town F] even though file documents indicated that mercury had been identified as a continuing problem in its wastewater flow since 1985. Further, the Town experienced exceedances of its NPDES permit limits for mercury in 20 consecutive months from August of 1997 through February of 1999. The enforcement actions that were taken because of these violations consisted of issuing two NOVs which assessed approximately \$9,000 for violations during the ten-month period from May 1998 through February 1999. A file document entitled “ENFORCEMENT CASE ASSESSMENT FACTORS” contained the following statements:

The mercury violations noted may be considered intentional due to the facility having knowledge of the violations, yet taking several years to adequately address the cause of the high mercury levels in the wastewater, and adequately remove the sources or remove the mercury from the effluent. . . . The Town has been relatively cooperative in recent dealings, however, as mentioned above, this problem could have been solved a long time ago if appropriate action had been taken in a timely manner.

Moreover, the State Director identified this Plant as “. . . a point source . . .” for an “. . . environmentally impaired stream . . .” (this is the same plant discussed previously in this chapter where the State Director was quoted).

**When SOCs Were
Obtained They Were Not
Obtained Timely**

Of the 17 major permittee cases we reviewed, six permittees negotiated SOCs with the State. One of the six cases was more than seven years old and we could not locate the data to evaluate whether the SOC was negotiated timely. None of the remaining five⁴ SOCs were obtained within the time period specified in North Carolina’s MOA with Region 4 (See Exhibit 2 for details). For example, [NC Town H] reported mercury concentrations in excess of

its permitted limits every month for nearly three years before the Town applied for a SOC. Moreover, the Town's application made it clear that legal actions taken by a consumer group, rather than negotiations with the State, caused the Town to apply for the SOC.

In the application for a SOC, the Town Manager wrote:

Through this period the State has been diligently working with [NC Town H] and it was felt that a Special Order by Consent would not be necessary. However . . . It was felt that due to the pending civil action [from a consumer group] and the continued detection of effluent levels of mercury, that it would be in order for the Town to apply for a Special Order by Consent.

When agreements which require permittees to achieve compliance with their NPDES permits are not reached timely, the elimination or reduction of pollutants in the State's waters may be delayed. In the case of [NC Town H] if the SOC had been negotiated approximately two years earlier, as required by the MOA, mercury levels in those impaired waters may have been reduced earlier.

State Officials Believed Following SOC Guidance Was Sometimes Not Appropriate

North Carolina officials did not agree that EPA's guidance for obtaining a SOC was appropriate in all situations. The North Carolina regional supervisors whom we interviewed gave various reasons for not negotiating a SOC with a permittee. For example, if they thought a permittee was making a significant effort to eliminate a violation and was making material progress toward this goal, they did not think that a SOC was necessary even if violations were continuing. In addition, they believed that a SOC was not usually appropriate when State and permittee officials were not reasonably certain about the cause of a permit limit violation because they would not be able to provide reasonable milestone dates in a SOC for attaining compliance. Further, North Carolina officials noted that a SOC required the consent of both the State and a permittee.

If the permittee did not want a SOC, regardless of the merits of such an agreement, the State could not force the permittee to sign it. Finally, State officials indicated that State Statutes did not allow for the issuance of SOCs when noncompliance was a result of poor operation. Per North Carolina Administrative Code, Title 15A, Subchapter 2A, Section 1206:

Requests [for SOCs] will not be evaluated unless it is demonstrated by the permittee to the satisfaction of the Director that noncompliance is not due to failure by the permittee to properly operate, manage and maintain the wastewater treatment system.

None of the State files we reviewed contained a statement (or other type of notation) which indicated that a SOC was not pursued because the permittee was not operating the facility properly.

State officials also believed that the time table for obtaining a SOC was not realistic. They maintained it would take at least three months, and usually five or six months, to obtain a SOC under the best of circumstances when there were no questions or disagreements between any parties. State officials emphasized that extensive SOC negotiations may have occurred between the time that the permittees we cited first came into SNC and the date that the SOC was actually signed (see Exhibit 2). The time required to process a SOC was indicated by the State's Standard Operating Procedures for Water Quality Section SOCs, dated April 23, 1997, which stated:

- Once the State and a permittee have agreed on a draft SOC, it will be sent directly to public notice during the next available public notice period.
- Public Notice will be given at least forty-five days prior to any final action regarding the Consent Order.
- A public hearing may be required before entering into a SOC.

- If there is no comment, or inadequate comment is received to justify a public hearing, the SOC will be routed fifteen days following the close of the comment period to the State Deputy Director and then to the Director for final review.⁵

In our opinion, when the State did not negotiate SOCs with applicable permittees, the State did not meet their obligations under their MOA with EPA. In particular, their enforcement actions, other than SOCs, did not commit permittees to specific, tangible efforts to achieve compliance in the future in accordance with a timetable that had been accepted both by the permittee and the State.

NORTH CAROLINA DID NOT ADEQUATELY CONSIDER ECONOMIC BENEFIT OF NONCOMPLIANCE WHEN ASSESSING CIVIL PENALTIES

The July 1998 change in North Carolina's penalty assessment policy resulted in more timely penalty assessments for facilities that violated their permit limits. However, the penalty amounts assessed may not have been sufficient to bring repeat violators into compliance timely. On July 1, 1998, the State's Water Quality regional supervisors were delegated the authority to assess penalties in accordance with a schedule of penalty assessments. Set penalty amounts were established for specific violations. Fines of \$1,000 per monthly violation and \$250 per weekly violation were issued if the permit limits were exceeded by 20 percent. The assessed penalty amounts could be escalated, up to a maximum of 45 percent, if there were more than three violations in a six-month period. However, the escalated assessed penalty amounts did not take into consideration the fact that some violators might have obtained an economic benefit by paying the penalty and avoiding or delaying measures to bring the facility into compliance. In some cases, the remedies could have cost millions of dollars if new plants or extensive rehabilitations of sewer collection systems were needed.

North Carolina's policy for assessing penalties was not consistent with its MOA with EPA. The MOA required that economic benefit be considered when penalties were assessed. The MOA, dated May 9, 1994, stated:

The determination of a penalty amount (or equivalent sanction) should be based on factors such as the seriousness of the violation(s), any history of noncompliance, any good faith effort to comply with applicable requirements, the amount of economic benefit resulting from the violation, the economic impact of the penalty on the violator, and such other factors as justice may require . . .

The interim CWA Settlement Policy, dated March 1, 1995, stated that the objective of the economic benefit calculation was to place violators in the same financial position as they would have been if they had complied on time.

According to the State's Chief of the Water Quality Section, the assessment of economic benefit would have been beneficial in some cases. However, it wasn't part of the State policy to have regional supervisors assess a penalty following a violation of a monthly permit limit. According to the Chief, economic benefit calculations would have slowed their penalty assessment process and the instances where it would have been beneficial were rare. Also, the State indicated it had other enforcement mechanisms, such as sewer moratoriums for municipalities. In addition, the State indicated they didn't have anyone on staff who was familiar with EPA's Economic Benefit of Noncompliance (BEN) model used to calculate economic benefit.

The State penalty assessment files we reviewed contained a one page preprinted form that listed eight factors which were to be considered when determining the penalty assessment amount. One of the eight factors was "The amount of money saved by noncompliance." The form also contained the same five potential answers, ranging from "not significant" to "extremely significant" for each of the eight factors. We did not locate any document that showed an actual State computation of the violator's potential savings from noncompliance. We were informed by EPA

Region 4 officials that the BEN model used to calculate economic benefit from noncompliance has been used successfully throughout the country for many years.

The policy of not using economic benefit in determining the amount of assessed penalties may have reduced the incentive for some repeat violators to enter into SOCs with schedules for coming into compliance. For example, we identified a Wastewater Treatment Plant in [NC Town A] that was assessed repeatedly for failing to meet the WET limits in its NPDES permit. The Town failed eight of 10 tests for toxicity in 1998, 9 of 10 tests in 1999, and the last nine tests it took through March 2000, the last month shown in the summary record we reviewed. Further, the Town has not passed a test during the fourth quarter since 1994, and failed at least one test each year since 1990. The State issued NOVs and assessed penalties for seven months of violations in 1998 and six months of violations in 1999. The State's regional office tried to get the Town to negotiate a SOC, but the Town had not done so at the time we completed our field work. The State's environmental specialist who works with the Town stated:

. . .the staff of the Department of Water Quality suspects the Town believes that paying the fines is cheaper than paying for a TRE . . .

(TRE: toxicity reduction evaluation - a study to determine the cause of toxicity levels, which typically would be required in a SOC).⁶

We also identified two cases in which violating facilities paid the penalty assessments but did not agree to a compliance schedule in SOCs. For example, [NC County I] had been assessed penalties eleven times totaling \$29,395 for permit violations at its [NC County I] Wastewater Treatment Plant from May 1998 through January 2000. In another case, the [NC City J] Plant was assessed penalties five times totaling \$5,084 for permit violations from April 1999 through January 2000. At the time we completed our

field work, penalty assessments were pending for violations for February, March and April 2000 at the [NC City J] Plant. Neither permittee had a schedule for compliance despite a history of noncompliance. Neither permittee was assessed penalty amounts that took into account the economic benefit of delaying actions needed to come into compliance.

CONCLUSION

North Carolina improved the timeliness of its penalty assessments in recent years but further improvement was needed in its NPDES enforcement efforts in three areas. First, North Carolina needed to change its practice of not taking enforcement actions against major permit violators for violations of daily or weekly permit limits until a compliance inspection was done, or there was a violation of a monthly NPDES permit limit. Further, North Carolina needed to develop procedures for ensuring that daily and weekly exceedances of NPDES permit limits by minor facilities were identified within 30 days. Second, North Carolina needed to improve its enforcement practices by timely obtaining agreements from permit violators to achieve compliance. Agreements to obtain compliance were either not obtained, or not obtained timely. This was due to the fact that State officials did not believe such agreements should be obtained, in every situation, within the time frames specified in the State's MOA with EPA. State officials also believed other enforcement actions were sufficient to bring about compliance with NPDES permit limits in some cases. Third, economic benefit was not adequately considered when penalties were assessed, or other types of enforcement actions were contemplated, due to the fact that State officials believed using this concept would have slowed the penalty assessment process. If improvements in State enforcement efforts are not made, exceedances of NPDES permit limits are likely to continue and State waters will continue to be polluted.

RECOMMENDATIONS

We recommend that the Regional Administrator ensure that

North Carolina:

- changes its current practice of not taking enforcement action within 30 days for violations of daily and weekly permit standards which are not accompanied by violations of monthly standards
- provides QNCRs to NCDENR field officials or otherwise apprises them of violations of daily and weekly permit limits by major facilities
- detects exceedances of daily and weekly NPDES permit limits within 30 days after receipt of DMRs from minor facilities. In the absence of CMS software enhancements, or other better means of identifying such exceedances, we recommend that the Regional Administrator encourage the State to require that DMRs be manually reviewed for daily and weekly exceedances of NPDES element limits when DMRs do not have monthly permit limits.
- uses SOCs, as appropriate, when permit violations persist and State waters are being polluted and that the State accounts for the delays in reaching agreements with permittees, where appropriate, for achieving compliance.
- incorporates adequate consideration of economic benefit by permit violators in penalty assessments against repeat offenders, and
- provides training to North Carolina officials on how to use the BEN model.

STATE COMMENTS

The State indicated their willingness to take unilateral actions where possible and work with EPA Region 4 to resolve issues raised in this Report Chapter. The State also indicated that DWQ would provide copies of the QNCRs to each of the State field offices and they would work with EPA to evaluate the need to update the language in its

MOA. We believe these steps and the DWQ plan to work closely with EPA Region 4 could resolve all pending issues.

The State also indicated that they thought we suggested that every violation must be addressed with a formal enforcement action. The State's response suggested that an undetected violation of a non-monthly limit will be a rare occasion, an isolated single violation. The State's response also indicated that a manual review of all DMRs was not practical or desirable. The State indicated that their enforcement policy against violators had changed since 1997 and that this had resulted in increased compliance rates. The State added that SOWCs were not a wise use of their resources. North Carolina also indicated that they believed that factoring economic benefit of non-compliance more thoroughly into their assessments would detract from the timeliness of their assessments. Further, the State indicated that our report seemed to challenge the fact that SOC's cannot be issued for instances of noncompliance that are operational in nature. Finally, the State's response asserted that their enforcement policy fulfills the commitment they made in their MOA to take formal enforcement actions.

OIG EVALUATION

We did not suggest that that every violation must be addressed with a formal enforcement action. The MOA did not require a formal enforcement action after every violation. In accordance with their MOA, we believe every violation that was reflected in a DMR should have been identified by a State representative. Our report addressed violations of non-monthly permit limits that were not accompanied by violations of monthly permit limits, not violations of non-monthly permit limits that were accompanied by violations of monthly permit limits. We believe that undetected violations of non-monthly limits are not rare. Such violations went undetected from nine to 15 months in four of the 17 major cases we reviewed (23.5 per cent). The State's MOA with EPA required the State to conduct a timely and substantive review of all self-monitoring reports received and evaluate the permittees'

compliance status. We acknowledged the State Code which prohibits SOCs from being issued for instances of noncompliance that are operational in nature in our draft report and did not “challenge” that Code. We also made the point that none of the State files we reviewed contained a statement (or other type of notation) which indicated that a SOC was not pursued because the permittee was not operating the facility properly.

In response to the State’s comments that their enforcement policy had changed in 1997 and this had resulted in increased compliance rates, we added related information to the final report which we were able to evaluate. With regard to the State’s discussion of their non-use of SOWCs, our draft report statements related to this issue mentioned only that the State had the authority to use this enforcement tool but that the State’s approach, instead, was to assess fines and obtain SOCs when needed.

The State was required by their MOA to factor in an evaluation of the economic benefit of non-compliance in their penalty assessments. Such evaluation could be done on a case by case basis, concentrating on more severe and repeated violations, as provided for in the MOA.

We continue to disagree with the State’s assertion that their enforcement policy fulfilled the MOA commitment to take formal enforcement actions. The State’s enforcement actions, other than negotiating SOCs, did not obtain the permittees’ commitment to take specific, tangible actions to achieve compliance by a specific time in the future.

In our opinion, the other points raised in the States response were already fully addressed in the draft report. Accordingly, we did not change the wording in this Chapter of our report.

[This page intentionally left blank.]

CHAPTER 4

NORTH CAROLINA NEEDS TO IMPROVE ITS STORMWATER COMPLIANCE MONITORING AND ENFORCEMENT PROGRAM

North Carolina's NPDES compliance monitoring activities were generally sufficient to detect instances of non-compliance, excluding daily and weekly limit violations. Except for stormwater sites, State on-site inspections of NPDES point sources were performed at required intervals during the period July 1998 through June 2000, and permittee violations of monthly discharge limits were generally detected in a timely fashion. However, the State had not developed a compliance monitoring strategy and program for NPDES stormwater permits. State management officials told us that resource constraints prevented them from developing a compliance monitoring program for stormwater permits. Although water quality data indicated that stormwater was a significant contributor to surface water impairment in North Carolina, the State and EPA did not have assurance that facilities with stormwater permits were complying with their permit requirements or taking all required measures to reduce pollution from stormwater run-off.

NPDES STORMWATER REQUIREMENTS

In 1987, Congress amended the CWA to require implementation, in two Phases, of a national stormwater permit program. Regulations implementing Phase I were promulgated on November 16, 1990, in the Federal Register (55 FR. 47990). Phase I required NPDES permits for stormwater discharges from large and medium municipal separate storm sewer systems (MS4) generally serving populations of 100,000 or more, construction sites that disturb five or more acres of land, and certain other industrial sites (e.g., landfills). The Final Rule for Phase II of the Federal stormwater program was published in the Federal Register on December 8, 1999, and was effective

February 7, 2000. Phase II expanded the stormwater permit program to include small MS4s (those serving populations under 100,000), and construction sites that disturbed one to five acres. EPA's final rule for Phase II stormwater permits discussed the water quality concerns posed by stormwater runoff as cited in various impact studies and assessments. In general, stormwater runoff can cause or contribute to exceedance of water quality standards by changing natural water flow patterns, accelerating stream flows, destroying aquatic habitat, and elevating pollutant concentrations.

Stormwater permits differed from other NPDES point source permits in that the permits required best management practices (BMP) instead of discharge limits. NPDES permits required that these BMPs be outlined in a pollution prevention plan prepared by the facility. Stormwater permits generally required monitoring and sampling of discharges during specified storm events for certain parameters of concern. These sampling results were used to evaluate loadings (i.e., the amount of pollutants) entering receiving waters. Since the stormwater permits did not contain discharge limits, these sampling results were not evaluated for compliance against permit limits as was done for other NPDES point sources. According to a key Region 4 enforcement official, EPA is moving toward requiring that stormwater permits contain discharge limits.

40 CFR Part 123.25 required that states with EPA approved NPDES programs implement the stormwater programs described in Part 122.26. North Carolina's FY 2000 CWA Section 106 Grant Workplan contained a commitment that the State develop a stormwater enforcement strategy for prioritizing stormwater inspections and enforcement. However, the State did not agree to this commitment because of stated concerns about the availability of resources to conduct this work.

Within North Carolina, the DWQ was responsible for issuing all NPDES stormwater permits and monitoring compliance with NPDES permits for MS4s and industrial

stormwater sites. The State's Division of Land Resources, as part of the State's Erosion and Sediment Control Program, oversaw construction activity and had responsibility for conducting inspections of construction sites and determining sites' compliance with BMPs. If the Division of Land Resources' inspection found a violation of BMPs or other NPDES requirements, they notified DWQ of these violations, then DWQ could initiate an enforcement action for NPDES stormwater violations (e.g., for failure to comply with monitoring requirements).

State Stormwater Initiatives

Both State and EPA Region 4 officials cited various accomplishments that the State had achieved in regard to their overall stormwater program including both NPDES and State initiated programs. For example, EPA Region 4 noted that despite resource challenges, North Carolina had demonstrated effective and innovative use of stormwater requirements to address illegal ditching and draining activities in its coastal wetlands. According to the Region, this ditching initiative required both EPA and North Carolina to contribute resources toward enforcement actions that have resulted in restoration of wetlands and deterrence of future violations. We also noted that the State had recently completed its web page on the stormwater program. This web page provided the public with important information on the State's overall stormwater program including both the federally required NPDES program and the State stormwater initiated programs. For example, information could be found on State workshops conducted to explain the requirements of the NPDES Phase II program and to solicit local government feedback on the implementation of Phase II. The web page also discussed a stakeholder process convened to develop a framework for a comprehensive statewide stormwater management program. State officials also noted that they had developed a stormwater management program to control the input of nutrients into the Neuse River Basin. According to State officials, this effort had resulted in a model stormwater management plan for nitrogen control.

**COMPLIANCE WITH
STORMWATER
REQUIREMENTS NOT
ROUTINELY
MONITORED**

State officials told us that they had not established a comprehensive compliance monitoring and enforcement program for stormwater permits. Specifically,

- stormwater industrial sites were not routinely inspected but were generally inspected on a complaint basis or in conjunction with other NPDES inspections,
- stormwater self-monitoring reports were not reviewed to determine whether sites were complying with their monitoring requirements,
- inspections of non-construction stormwater sites were not tracked and monitored, and
- the State did not develop adequate guidance for conducting stormwater inspections

As of April 2000, North Carolina had issued six MS4 and 3,421 industrial stormwater permits. All MS4 permits contained monitoring requirements and 2,747 of the industrial permits potentially required the facility to monitor and analyze stormwater discharges and report these results to the State. All of these permits required the permittee to qualitatively (i.e., visually) monitor all stormwater outfalls. State officials were unable to tell us how many of these industrial sites were inspected during the last two inspection years. Regional inspectors told us that in most cases they only inspected stormwater sites if a citizen's complaint was received or in conjunction with inspections of other NPDES permits for that facility.

Data indicated that construction sites with NPDES permits were frequently inspected by the Division of Land Resources. However, these inspections focused on the sites' implementation of BMPs and did not evaluate compliance with NPDES monitoring requirements. The number of active construction sites was variable, but State

officials estimated that they had approximately 2,800 construction sites under its general construction permit, as of April 2000. According to Division of Land Resources officials, their Division had conducted approximately 5,300 inspections during the 12-month period July 1998 through June 1999, and approximately 3,500 inspections during the 10-month period July 1999 to April 2000.

**MINIMAL RESOURCES
WERE DEVOTED TO
STORMWATER
COMPLIANCE**

North Carolina officials told us that their stormwater compliance monitoring efforts had been limited due resource constraints. North Carolina had not designated any positions primarily dedicated to compliance monitoring and enforcement of NPDES stormwater permits. The DWQ's Stormwater and General Permits Unit consisted of seven positions, including a supervisor. All of these positions were responsible for NPDES stormwater permit review and issuance, as well as supporting the State's non-NPDES stormwater programs and issuing General wastewater permits. Regional offices were responsible for conducting inspections of all NPDES facilities. However, none of the regional office staff was primarily dedicated to performing stormwater compliance oversight. The Raleigh Regional Office told us that they have one person assigned responsibility for conducting NPDES stormwater inspections, however, stormwater inspection was only one of her responsibilities.

State officials indicated that the NCDENR Water Quality Division's Basin Wide Information Management System, once fully implemented, should provide the necessary tracking of stormwater self-monitoring data. However, State officials told us that the final implementation date of the system was contingent upon the availability and timing of adequate funding for the project.

**STORMWATER
CONTRIBUTES
SIGNIFICANTLY TO
STREAM IMPAIRMENT**

Without a stormwater compliance monitoring program, the State and EPA did not have assurance that facilities were in compliance with their stormwater permits or taking all required measures to reduce pollution from stormwater runoff. State water quality reports indicated that pollution related to stormwater runoff was a likely cause of impairment in a significant number of impaired surface

waters in North Carolina. State water quality reports indicate that pollution related to stormwater runoff is a potential cause of impairment in a number of impaired surface waters in North Carolina. The State's 2000 § 303(d) list indicates that 19% of the State's impaired stream miles listed for sediment and/or turbidity are potentially impacted by construction, development, urban runoff, and non-urban runoff.

We could not determine the extent of NPDES stormwater permit violations occurring statewide because that information was not available. However, we observed that the stormwater related inspections the State regional offices had performed resulted in the detection of violations and enforcement actions in some instances. For example, one State regional office had recommended a \$50,975 civil penalty assessment against a developer for repeated failures to comply with the monitoring requirements of his NPDES stormwater permit. This action was initiated after the Division of Land Resources had inspected the site and found it to be in violation of its sedimentation and erosion control plan. In another case, an inspection of an asphalt plant found indications of oil spills. The inspector noted that plant employees present during the inspection could not produce a copy of its pollution prevention plan even though the permit required that it be kept on-site. In another example, as part of an investigation of a fish kill, a State regional office inspector found that an NPDES stormwater permittee was discharging, via a storm drain, high levels of pH⁷ (measure of how acidic or alkaline a substance is) into the creek where the fish kill had occurred.

CONCLUSION

EPA studies, referenced in the Federal Register (55 FR. 47990), as well as State water quality data, showed pollution resulting from stormwater runoff in North Carolina to be a significant water quality concern. Further, the State's regional inspectors found instances where permittees were not complying with their stormwater permit requirements. Although water quality data indicated that pollution from stormwater runoff was a significant water quality concern, State officials indicated that a lack of resources had prevented them from developing and

implementing a stormwater compliance strategy and program. Implementation of Phase II of the stormwater program will significantly increase the number of stormwater sites requiring NPDES permits and compliance monitoring. We believe the State and EPA should evaluate the State's current NPDES compliance activities and resource allocation to determine whether sufficient resources can be obtained to implement an adequate stormwater compliance program.

RECOMMENDATION

We recommend that the Regional Administrator provide assistance and guidance as necessary to assist North Carolina in evaluating their current NPDES enforcement strategy and related resource allocation. This evaluation of the State's NPDES enforcement strategy and resource allocation should determine whether an adequate stormwater compliance monitoring program can be provided by reallocating existing resources. We further recommend that the Regional Administrator consult with the State on this evaluation and assist the State, to the extent feasible, in devising a plan to incorporate an adequate stormwater compliance monitoring program in their enforcement strategy and resource allocation.

**EPA REGION 4
RESPONSE**

EPA Region 4 noted in their response that stormwater regulation implementation was an issue that challenges Region 4 and its states, and that this stormwater requirement has put a heavy demand on CWA resources that are already being strained from other emerging issues (e.g., Total Maximum Daily Loading (TMDL) requirements). The response also noted North Carolina's significant accomplishments in addressing illegal ditching and draining activities in the State's coastal wetlands.

**NORTH CAROLINA
RESPONSE**

The North Carolina DWQ concurred that pollution resulting from stormwater runoff is a significant water quality concern in North Carolina. The State noted that the stormwater runoff problem is greater in scope than what can be addressed by Phase I and II of the NPDES Stormwater program. In recognition of the scope of the stormwater problem, the State responded that they

administer a State Stormwater Management program that regulates development activities within its 20 coastal counties as well as development activities that affect Outstanding Resource Waters and High Quality Waters. The response also noted that the DWQ administers a Water Supply Watershed Protection Program and has implemented buffer rules and stormwater management requirements in the Neuse, and Tar-Pamlico river basins. In regard to the draft report's recommendation, DWQ responded that the diversion of resources from other aspects of the NPDES program was not an alternative that they believed would protect water quality. DWQ responded that in the past it has attempted to obtain additional funding for stormwater compliance and enforcement activities from federal grants and the State legislature, and will continue to seek additional funding from these sources. DWQ also indicated that it will continue to work with the State's Division of Land Resources to improve coordination of compliance monitoring activities. During our exit discussion with State officials, these officials told us that they interpreted our draft recommendation to suggest that they divert resources from other NPDES activities to the Stormwater program.

OIG EVALUATION

Based on our discussions with EPA Region 4 and State officials we revised the wording of the draft report's recommendation to clarify that we are not recommending that the State reallocate resources to the stormwater program. However, we are recommending that EPA and the State conduct an evaluation to determine whether it makes sense to reallocate existing resources to the stormwater program. Both EPA Region 4 and the State's response to the draft report indicated that the State and Region 4 will be collaborating to prepare a joint action plan for addressing the issues and recommendations presented in the draft report. Pending our receipt and evaluation of the joint action plan, we revised the draft report's recommendation and included the revised recommendation in this Chapter.

CHAPTER 5

TEST METHODS USED BY NPDES FACILITIES WERE NOT ALWAYS SENSITIVE ENOUGH TO DETERMINE COMPLIANCE WITH PERMIT LIMITS

Test methods used by North Carolina's NPDES permitted facilities to analyze discharge samples were not always sensitive enough to produce reporting levels that were below the maximum NPDES discharge limits for total residual chlorine and mercury during 1999. In the case of total residual chlorine, some minor facilities did not use the most sensitive test methods available, but instead used a less expensive and less sensitive method to analyze samples. For mercury, a test method capable of producing reporting levels below the discharge limits for this pollutant was approved by EPA in June 1999. The use of these new and more sensitive methods by NPDES permitted facilities had not been phased in at the time of our review. When the test methods used to analyze discharge samples were not capable of accurately reporting pollutant concentrations at levels below the permit limit, the State and EPA could not determine whether the facility was in compliance with its permit discharge limits, and could not fully evaluate the potential harm to the environment these discharges might have created.

NORTH CAROLINA NPDES TESTING REQUIREMENTS

North Carolina required all permits to contain a standard clause regarding the type of testing that a permittee must use when testing its effluent. This clause stated that:

...all test procedures must produce minimum detection and reporting levels that are below the permit discharge requirements and all data generated must be reported down to the minimum detection or lower reporting level of the procedure. If no

approved methods are determined capable of achieving minimum detection and reporting levels below permit discharge requirements, then the most sensitive (method with the lowest possible detection and reporting level) approved method must be used.

The minimum detection level referred to in the NPDES clause was also referred to as the limit of detection. Limit of detection was defined by the American Chemical Society, as “. . . the lowest concentration the analytical process can detect . . .,” and by the International Union of Pure and Applied Chemistry as “. . . the concentration or amount derived from the smallest measure that can be detected with reasonable certainty for a given analytical procedure . . .” The minimum reporting level referred to in the NPDES clause was also known as the quantitation limit or limit of quantitation. The limit of quantitation was defined as the minimum concentration in an analyzed sample that can be reported with statistical certainty.

For analytical results below the limit of detection, presence of the analyte cannot be confirmed or denied with certainty. For analytical results falling in the range between the limit of detection and the limit of quantitation, the analyte is present, but the concentration of the analyte cannot be reliably reported. Amounts reported above the limit of quantitation can be reliably reported with a high degree of statistical certainty. Per an April 1999 State Policy Memorandum, North Carolina’s policy was to interpret test results below the quantitation limit as zero for compliance purposes. For example, assume a test method for a particular pollutant had a quantitation limit of 10 micrograms per liter (ug/l) and a permit contained a discharge limit for that same pollutant of 5 ug/l. A test result of 9 ug/l would be interpreted as zero and not considered in violation of the 5.0 ug/l permit limit because of the uncertainty associated with the accuracy of the 9 ug/l test result. We did not question this practice, since test results below the quantitation limit are statistically

uncertain (i.e., an estimate), and cannot be directly compared to a permit limit.

When writing a permit, North Carolina determined whether or not a discharge limit was needed for a given pollutant based on a “reasonable potential analysis.” This technique used a statistical analysis for each parameter (pollutant) of concern that had either a state or federal water quality standard. Essentially the objective was to determine the maximum allowable concentration of the parameter in the waste stream which would not result in a violation of the water quality standard for that parameter in the receiving water.

SOME MINOR FACILITIES DID NOT USE THE MOST SENSITIVE TEST AVAILABLE FOR TOTAL RESIDUAL CHLORINE

Generally, when facilities used a chlorination process to treat wastewater, the State’s NPDES permit contained a discharge limit for total residual chlorine. Four of the 11 minor facility permits we reviewed contained total residual chlorine discharge limits. These four permits required a monitoring and testing frequency of either two or three times a week and all contained a daily maximum discharge limit of 28 ug/l. Discharge monitoring reports indicated that two of these four facilities used test methods for total residual chlorine that could not reliably report test results below 100 ug/l. Whenever these facilities’ daily total residual chlorine tests indicated effluent levels below 100 ug/l they were reported as “< 100 ug/l” on their monthly DMR. Accordingly, these test results were considered compliant with the daily maximum permit limit of 28 ug/l even though the true concentration of the discharge was unknown and could have exceeded the 28 ug/l permit limit.

North Carolina’s policy was to require that analyses of wastewater discharge samples be performed in a state-certified laboratory. Major NPDES permitted facilities normally had an on-site laboratory to perform this analysis. However, according to State officials, minor facilities did not have on-site laboratories. Further, State officials indicated that it was not feasible for these minor facilities to send these samples to an off-site contract laboratory for analysis since EPA required that chlorine samples be analyzed within 15 minutes of collection. As a result,

these minor facilities were granted waivers to the laboratory certification requirement and conducted tests for chlorine in the field as opposed to conducting the test in a laboratory. State officials indicated that minor facilities have commonly used a relatively inexpensive field instrument for testing chlorine which was not capable of accurately reporting total residual chlorine concentrations down to the permit limit. We did not determine the number of minor facilities Statewide that did not use the most sensitive test available. Based on data obtained from North Carolina's CMS, as of July 2000, the State had approximately 310 active minor NPDES permits with total residual chlorine discharge limits.

Based on our discussions with EPA chemists, EPA-approved methods for laboratory analysis could achieve a quantitation level of 50 ug/l. The EPA-approved laboratory methods required minimal laboratory space and equipment and were simple to perform. No expensive equipment was required but a modest indoor space was required at the wastewater treatment plant where lab equipment could be stored and tests performed. Improved field instruments may present another alternative to achieving lower quantitation limits than 100 ug/l. The manufacturer of the inexpensive field instrument used by many minor facilities made other more sophisticated, and expensive field instruments. We discussed the sensitivity of one of these instruments with a State Laboratory official. The instrument we discussed costs around \$2600. This official stated that this instrument has demonstrated quantitation levels as low as 10 ug/l in the field. He cautioned that quantitation levels could vary between facilities and not all operators could achieve this low quantitation level. Therefore, his office was more comfortable with a quantitation limit of 20 ug/l for this instrument.

However, State officials expressed concerns that this more expensive instrument may not be able to obtain the lower quantitation limits in day to day operations. State officials indicated that this machine is delicate and requires all of the set-up procedures that would normally be required for

an in-house laboratory test. A potential alternative to the more expensive instrument is to utilize the matrix-matched standard addition technique developed by U.S. EPA's Region 4 Science and Ecosystems Support Division. This technique allows the analyst to overcome the difficulties associated with the detection of total residual chlorine at concentrations at or near the method detection limit. This technique was approved for use in NPDES testing by the Director, Office of Water Analytical Methods Staff in a June 8, 2000-memorandum. The memorandum indicated that this technique did not require formal approval as an alternate NPDES test procedure because the chemistry of the method was not changed.

State officials indicated that the State had not consistently required all facilities to use the more expensive and sensitive instruments as required by their permit. Some State regional office officials told us they were addressing a facility's failure to use the most sensitive instrument available during the annual compliance inspection for the facility. However, as a matter of policy, the State had not required these facilities to use the most sensitive methods available.

**NEW TEST METHOD
SHOULD PROVIDE
NEEDED SENSITIVITY
TO EVALUATE
COMPLIANCE WITH
MERCURY LIMITS**

Depending upon the results of the State's reasonable potential analyses, an NPDES permitted facility could have a daily mercury discharge limit as low as 0.043 ug/l. For most of the period covered by our review, the only EPA approved analytical methods for mercury were Methods 245.1 and 245.2. Since these methods had quantitation limits of .2 ug/l they did not possess the required sensitivity to determine compliance with mercury limits of .043 ug/l. Information obtained from the State's CMS indicated that, as of July 2000, North Carolina had 66 active NPDES permits with discharge limits for mercury.

Effective June 8, 1999, EPA approved method 1631 Revision B for mercury. This analytical method has a published method detection limit of .0002 ug/l and a quantitation limit of .0005 ug/l. In a 1999 policy memorandum on quantitation limits, the State expressed

concerns about the ability of this new method to accurately quantify mercury concentration in complex wastewater. In order to address this concern, we reviewed the results of the EPA Method 1631 Interlaboratory Validation Study (dated March 1998). We also discussed the method's performance with Region 4 laboratory personnel, and with one of the commercial laboratories that participated in the EPA Validation Study and performed method 1631- Rev. B on a commercial basis. The consensus opinion was that the wastewater matrix would, at worst, raise the quantitation limit of Method 1631 from 0.0005 ug/l to between 0.001 and 0.010 ug/l. This elevated quantitation limit would be four times more sensitive than the State required 0.043 permit limit.

A potential impediment to implementing the new method for mercury is possible increased costs due to the required sampling procedures and the need for an ultraclean laboratory in which to conduct the test. The added expense of performing the new procedure in-house would be considerable since it would require the development of an ultraclean laboratory. However, obtaining these services on a contract basis did not appear to cost-prohibitive based on our analysis. Commercial laboratories generally charge approximately \$60 per sample for analysis using methods 245.1 and 245.2. We contacted two firms that perform the newly developed Method 1631 Rev. B on a commercial basis. The cost per sample for the new method ranged from \$55 to \$97.50 based on the level of quality assurance and documentation requested by the client. The North Carolina NPDES permits we reviewed that contained mercury limits, required testing on a weekly or less frequent basis.

Implementation of the new mercury method does present technical issues related to sampling. The composite samplers used to collect discharge samples may potentially contaminate the effluent sample with mercury at the very low detection levels provided by Method 1631 Rev. B. Twenty-four hour composite sampling⁸ is usually required by most NPDES permits. However, the method

documentation for Method 1631 Rev. B only addresses the use of grab⁹ samples. Therefore, the permittee is left to develop and demonstrate acceptable performance of the composite sampling process through the collection and analysis of field blanks¹⁰. However, due to the sensitivity of the new method, field blanks will probably also show mercury contamination. For example, assume that the permit limit is .043 ug/l, test results on the effluent discharge indicate .050 ug/l of mercury, and test results on the field blank indicate .020 ug/l of mercury. Should the discharge sample concentration be reported as .050 ug/l and in violation of the permit? Or should the field blank value of .020 ug/l be subtracted from the discharge sample's test result to give a result of .030 ug/l which would be determined to in compliance with permit? We believe this is a national policy issue that should be addressed by EPA's Office of Water. In the meantime, however, we believe that implementation of acceptable new testing methods should proceed as appropriate.

We discussed the implementation of this new mercury method with the North Carolina Water Quality Section Chief. The Chief indicated that the state was looking into the possibility of using the new method for mercury. However, there were not any labs in the general vicinity of North Carolina using this method. The Chief indicated that the State had discussed upgrading their laboratory to be able to perform the new method. However, this would require them to build a new laboratory which would be costly and the Chief indicated that it was unlikely that funding would be made available.

**STATE AND EPA
UNABLE TO EVALUATE
PERMIT COMPLIANCE
AND POTENTIAL
IMPACT OF
DISCHARGES ON THE
ENVIRONMENT**

The State and EPA Region 4 were unable to determine a facility's compliance with permit limits when the tests used were not capable of accurately reporting test results down to the limits specified in the permit. Information on permit violations was also used by the State to determine potential sources of impairment for streams, estuaries, and lakes. For example, impaired streams which received a discharge from a facility that was significantly out of compliance with its permit limits may have caused that

facility to be listed as a potential source of pollution on the CWA Section 303(d) List of impaired waterbodies.

Damage to the environment could occur from discharges of pollutants beyond the concentrations allowed by permit conditions. For example, chlorine is immediately toxic to aquatic life at low levels. Federal criteria guidance recommended that in-stream concentrations not exceed 19 ug/l as an acute value and 11 ug/l as a chronic value. Chlorine does eventually dissipate through natural volatilization. Mercury is toxic to aquatic life at low levels but is a greater concern as a threat to human health. Mercury is bio-accumulative meaning that it is retained in the bodies of organisms that consume nutrients or other organisms containing mercury. Fish tissue sampling is routinely conducted in waterbodies known to have mercury contamination, and health advisories are issued when fish contain mercury levels too high to be considered safe for human consumption. In humans mercury can affect organs such as the spleen, brain, and liver. Federal criteria guidance recommended that in-stream mercury concentrations not exceed 0.05 ug/l to be protective of human health.

According to State officials mercury was an important issue with regard to the quality of the State's waters. For example, fish tissue testing in North Carolina has shown mercury to be a problem. As of February 2000, ten separate fish consumption advisories were in effect for the State with regard to mercury. In addition, the State's final draft "North Carolina's 2000 §303(d) List" of impaired waters included 25 separate waterbodies (included rivers/streams, lakes, and areas of the Atlantic Ocean) as requiring TMDL for mercury; and the potential source of the pollution either (1) included NPDES point sources; or (2) was unknown. Additional waterbodies were listed on the §303(d) List as impaired by mercury, but the source of pollution for these segments was identified solely as atmospheric deposition.

Not using the most sensitive test methods could also impact the implementation of new Federal water quality rules. EPA has recently issued requirements for reporting of TMDL in waterbodies. Use of the most sensitive methods available for analysis relates to this process in much the same way it relates to the NPDES permit process; the more accurate and sensitive the method used, the more closely reports will reflect the actual quality of the waterbody being measured. In addition, there is a potential for inaccurate reporting if the State's NPDES data interpreted as "zero" for compliance purposes is interpreted as "zero" when averaged with other data to produce daily loading of waterbodies. This practice would result in reports of incorrectly low loadings and waterbodies would be reported as cleaner than the measurements indicate.

CONCLUSION

The test methods used by NPDES permitted facilities were not always sensitive enough to determine compliance with permit limits. Improved test methods were recently developed which were more sensitive than the methods used by NPDES permittees. The use of the most sensitive, available test methods was critical to the success of the NPDES permit program. The usefulness of permit limits was significantly diminished if the tests being used by NPDES facilities were not capable of determining whether the permittee was in compliance with these limits. In addition, the accuracy of water quality analysis and reports can be affected if the most sensitive and accurate discharge data is not available.

RECOMMENDATIONS

We recommend the Regional Administrator provide guidance and direction as necessary to ensure that North Carolina:

- Develops a plan to phase in the use of instruments with the lowest reporting limits for analyzing total residual chlorine concentrations, and
- Develops a plan to phase in the use of EPA method 1631 Rev. B for analyzing wastewater effluent concentrations of mercury.

EPA REGION 4 AND STATE COMMENT

The EPA Region 4 response did not specifically address this Chapter’s findings and recommendations. However, EPA Region 4 noted in its response that both Region 4 and North Carolina senior officials have met to discuss resolution of many of the recommendations contained in the draft report. Further, agreements have been made to collaboratively construct an action plan to address or clarify issues in North Carolina’s implementation of the program and EPA Region 4’s oversight role.

The North Carolina DWQ expressed concerns about the reliability of the newer field instruments for testing total residual chlorine when used in day to day field operations. DWQ also noted that implementation of the new mercury method will require specialized training of analysts as well as special laboratory conditions before the method can be performed correctly. Accordingly, DWQ proposed to work with EPA to develop a plan to (1) implement any new methodology for analyzing total residual chlorine as appropriate, and (2) phase in the use of the new mercury test method as appropriate.

OIG EVALUATION

We recognize the State's concerns about implementation of the new instruments and methods cited in this Chapter and concur that their use will require a phase in period, especially in regard to the new mercury method. Both EPA Region 4 and the State responded that they will be collaborating to develop a joint action plan to address the issues and recommendations in the draft report. Pending our receipt and evaluation of the joint action plan, we are retaining the draft report's recommendations in this Chapter.

[This page intentionally left blank.]

CHAPTER 6

NORTH CAROLINA'S ANIMAL FEEDING OPERATIONS SHOULD BE PERMITTED UNDER NPDES REQUIREMENTS

North Carolina's enforcement officials indicated that North Carolina had begun to take a more pro-active stance with regard to animal feeding operations (AFO) enforcement penalties. NCDENR conducted annual inspections of all AFO facilities in our sample. North Carolina indicated they were assessing additional penalty levels based on whether or not the facility had a past history of violations and the number and severity of violations. North Carolina had begun assessing a civil penalty amount, generally \$1,000, in those cases where the facility failed to self-report a discharge or violation.

However, the State of North Carolina did not issue NPDES permits to facilities that met applicable federal CAFO regulations. During the period covered by our fieldwork, North Carolina had approximately 1,123 AFOs which exceeded the applicable federal NPDES CAFO threshold (see next page for threshold criteria). North Carolina did not issue NPDES permits to applicable AFOs because they believed their permit program was more appropriate than the NPDES permit program. North Carolina contended that their permit program was more stringent than the NPDES program. According to EPA Region 4 officials, the State repeatedly resisted EPA's efforts to induce them to issue NPDES CAFO permits in addition to their State AFO permits. When compared to NPDES CAFO permit requirements, North Carolina's AFO permit conditions did not contain Federal enforceability, adequate third party lawsuit coverage, sufficient public notice, and EPA oversight.

**NPDES/CAFO
REGULATORY
BACKGROUND**

Livestock production has been a major industry in North Carolina and has also been a source of pollution in its rivers and streams. Pollution from livestock waste could be classified as either non-point source or point source. Non-point source pollution occurred when precipitation washed contaminants from tracts of land to surface and ground water. Congress, in the CWA, and EPA, in its regulations, categorized pollution from CAFOs as point source pollution, therefore requiring an NPDES permit. NPDES regulations imposed a “no discharge” effluent limitation on CAFOs, meaning that except under a chronic and catastrophic rainfall event at a properly constructed and operated facility, all runoff from animal confinement areas must be captured in a containment structure such as a lagoon.

The CWA gave EPA the authority to regulate point source discharges into waters of the United States through NPDES permitting. The CWA made it unlawful for any person to discharge any pollutant from a point source into navigable waters unless an NPDES permit had been obtained under the Act. 40 CFR Part 122.23 states that CAFOs were point sources subject to the NPDES permit program. An AFO, according to 40 CFR Part 122.23, Appendix B, was considered a CAFO if either of the following criteria were met:

- More than 1000 animal units¹¹ were confined; or
- From 301-1000 animal units were confined and it also met one of the specific criteria addressing the method of discharge:
 - (1) Pollutants were discharged into waters of the US through a man-made ditch, flushing system, or other similar man-made device; or
 - (2) Pollutants were discharged directly into waters of the US that originated outside of and pass over, across, or through the facility or came into direct contact with the confined animals.

In addition, under 40 CFR Part 122.23(c), AFOs could be designated as CAFOs on a case-by-case basis by the NPDES authorized permitting authority if they determined they had been or still were significant contributors of pollutants to waters of the United States.

**STATE AFO
PERMITTING**

AFOs were agricultural enterprises where animals were kept and raised in confined situations. The State of North Carolina issued general and individual permits to AFOs under their State permit program. Although these permits prohibited the discharge of waste water to waters of the United States, they did not include all of the applicable CWA and NPDES regulatory provisions and, therefore, were not NPDES permits. North Carolina reported, in their quarterly reports, 104 AFO discharges from October 1, 1998 until September 30, 1999, of which 29 discharges reached North Carolina surface waters. Surface water discharges could cause major water quality impacts and threaten public health. Depending upon the number of animals housed at these facilities, the facilities responsible for these discharges may have met the CWA definition of a CAFO and may, therefore, have been required to have NPDES permits.

According to EPA Region 4 officials, the State resisted EPA's efforts to persuade them to issue NPDES permits. Furthermore, North Carolina officials indicated that they believed the NPDES permit structure would cause confusion among the facility operators who they thought, if issued an NPDES permit, might have believed that discharges were allowable.

North Carolina's AFO permit program appeared to be more stringent than the NPDES CAFO program in some areas. For example: (1) issuance of State general permits to all facilities with 250 or more hogs, (Federal regulations required an NPDES permit if the facility had 2,500 or more hogs, or smaller numbers under certain conditions); and (2) the State inspected AFO facilities at least once a year, (Federal inspection guidelines recommended all CAFOs be inspected within three to five years). We agreed that the State AFO permit program was more stringent in some

areas, however, 40 CFR Part 123.25(a) specifically stated that:

While State's may impose more stringent requirements, they may not make one requirement more lenient as a tradeoff for making another requirement more stringent...

On September 29, 1999, North Carolina requested that EPA Region 4 grant them "functional equivalency" to continue their program as is. According to EPA Region 4 officials, EPA could not grant "functional equivalency" to the North Carolina AFO program because of both programmatic and regulatory constraints. EPA regulations required, prior to approval of a state program, that it meet the requirements at 40 CFR Part 123, including the no less stringent and jurisdictional scope provisions. Region 4 officials indicated that, programmatically, they also had issues with the submission, including, 1) insufficient public notice and public comment provisions, 2) lack of federal enforceability of the proposed general permit, 3) less stringent effluent limitations in the general permit, and 4) that a rule change may be necessary as CAFOs were not specifically included among the areas to be covered by "general permits" in the NPDES program as originally approved. EPA Region 4 had not officially responded to North Carolina's request for functional equivalency as of the end of our fieldwork.

**POTENTIAL
ENVIRONMENTAL
IMPACT OF CAFO
DISCHARGES**

Livestock operations can cause environmental degradation of surface and ground waters unless the resultant waste is collected, stored, and utilized or disposed of in an environmentally sound manner. Although it is difficult to determine the exact contribution of any particular nonpoint source on a national basis to water quality, it is widely recognized that AFOs can pose a number of risks to both water quality and public health, mainly because of the amount of manure and waste water they generate. Manure and waste water from AFOs have the potential to contribute pollutants such as nitrate and phosphorus, organic matter, sediments, pathogens, heavy metals, hormones, and ammonia to the environment. Excess nutrients in water

(i.e., nitrogen and phosphorus) can result or contribute to low levels of dissolved oxygen (anoxia), eutrophication, and toxic algal blooms. These conditions may be harmful to aquatic life and human health and, in conjunction with other circumstances, have been associated with outbreaks of microbes such as *Pfiesteria piscicida*. Moreover, improperly managed or sited AFOs may produce odors that nearby residents find objectionable. North Carolina reported in their Fiscal Year 2000 CWA Section 303(d) List of Impaired Water Bodies that six waterbody segments may have been impaired due, in part, to AFO pollution.

The United States Department of Agriculture, EPA, and North Carolina have recognized the many potential environmental impacts associated with AFOs. The amount of manure and other waste material generated by CAFOs was so large that a spill while handling manure or a breach of a storage system could have released large quantities of manure and waste water into the environment. This release may cause major water quality impacts and threaten public health. EPA's position was that most AFOs with more than 1,000 animal units probably have discharged in the past or had a reasonable likelihood to discharge in the future and, therefore, should have applied for, obtained, and operated under an NPDES permit.

**NORTH CAROLINA'S
AFO PROGRAM DID
NOT ADEQUATELY
ADDRESS FOUR KEY
NPDES PROVISIONS**

Due to the potential for major environmental impacts caused by discharges from AFOs, it was important that the State's permits and permit program included all applicable NPDES provisions. North Carolina's AFO permit program hindered the enforcement ability of EPA and did not adequately inform the public since it did not include adequate provisions for:

- Federal enforceability,
- Third party lawsuits,
- Public notice or
- EPA oversight

Federal Enforceability

EPA had the authority under the CWA to take enforcement actions against point source discharges. Applicable permit data relating to North Carolina AFOs and related point

source discharges was not required to be inputted into PCS due to the fact that North Carolina had not issued NPDES CAFO permits. Therefore, EPA Region 4's ability to enforce against pollutant discharges was hindered by a lack of information on CAFO operations. In addition, if NPDES permits had been issued, EPA would have had the ability to enforce against violations of all permit conditions. For example, State permitted AFO facilities were required to ensure and maintain proper lagoon free board levels at all times. The freeboard is the level from the top of the lagoon to the waste that allows for normal periods of rain or storm without causing an overflow or discharge.

Since NPDES permittees were required to design, construct, and operate an NPDES CAFO facility in order to prevent a discharge, except for catastrophic and chronic rainfall events, EPA had the authority to take enforcement actions for violations such as inadequate freeboard levels. However, because North Carolina's AFOs were not issued NPDES permits, EPA could not take enforcement action against violators of freeboard level limits in North Carolina.

Third Party Lawsuits

Under federal provisions, if a member of the general public believed that a facility was violating its NPDES permit conditions, that member could have independently started a legal action against the violator, unless EPA or the state regulatory agency had already taken an enforcement action. North Carolina's AFO program had provisions only for law suits in the case where a person was directly affected by siting requirements per North Carolina Senate Bill 1217. This siting limitation greatly hindered the ability for the general public to bring suits against violators.

Public Notice

NPDES federal regulations required that a 30-day public notice period be given prior to a facility being issued a permit. However, the North Carolina AFO permit program did not have this requirement. North Carolina statutes did provide that the Director of the DWQ, might at his discretion, allow for public notice or comments, however, we were told this option was rarely used. The only other North Carolina statutory requirement for public notice applied specifically to swine farms. Under North Carolina

House Bill 515, Part IV, Section 106-805, the provisions require that the permit applicant:

...notify all adjoining property owners and all property owners who own property located across a public road, street, or highway from the swine farm . . .

In contrast, under Federal requirements, if a facility had applied for an NPDES permit, the permitting authority (i.e., State of North Carolina) must have provided notice in a major local newspaper, usually in the legal section of the classified ads, or in an official publication such as the Federal Register.

EPA Oversight

The State of North Carolina received authorization to run the NPDES program within the State in 1975. However, EPA, through Region 4, maintained NPDES oversight responsibilities. Because North Carolina had not issued NPDES CAFO permits, EPA did not have direct access to either North Carolina's AFO facility or enforcement information. EPA's inability to directly access North Carolina's AFO permit and program information had a significant impact on EPA's ability to oversee the program and to ensure that AFO's had a minimum impact on both public health and overall water quality. During our fieldwork, North Carolina had approximately 1,123 AFOs that met the federal definition of a CAFO. However, the EPA did not have direct access to any of these facilities' data. In addition, of the universe of 24 facilities with reported discharges during the period of October 1998 through August 1999, eight of these facilities met the federal definition of CAFOs due to their size alone. Had those eight facilities been operating under NPDES permits, EPA would have been aware of the discharges and, therefore, could have taken enforcement actions against the violators.

CONCLUSION

The State of North Carolina did not issue NPDES permits to facilities that met applicable federal CAFO regulations. According to EPA Region 4 officials, the State repeatedly resisted EPA's efforts to induce them to issue NPDES

CAFO permits. North Carolina's AFO permits did not adequately address the following key provisions when compared to NPDES CAFO permit requirements: Federal enforceability, adequate third party lawsuit coverage, sufficient public notice, and EPA oversight. Manure and waste water from AFOs have the potential to contribute pollutants such as nitrate and phosphorus, organic matter, sediments, pathogens, heavy metals, hormones, and ammonia to the environment. Due to the potential for major environmental impacts caused by discharges from AFOs, it was important that these facilities be regulated under fully enforceable NPDES permits.

RECOMMENDATION

We recommend that the Regional Administrator ensure that North Carolina issue NPDES permits to all facilities that meet the federal CAFO definition. If no such agreement can be reached, we recommend that the Regional Administrator consider withholding an appropriate portion of Section 106 Water Grant funding relating to State permitting activities.

**EPA REGION 4
COMMENTS**

Region 4 officials indicated that factual clarification was necessary for certain statements in this chapter and provided us with suggested revisions.

STATE COMMENTS

North Carolina asserted that they did not resist EPA's efforts to induce them to issue NPDES CAFO permits. In addition, North Carolina stated that when requesting functional equivalency, they were not trying to resist federal regulatory prohibitions against having less stringent requirements than those specified in Federal Rules. They added that they were asking for interpretation of the U.S. Department of Agriculture and U.S. EPA Unified Strategy for Animal Feeding Operations. In response to our assertion that EPA's ability to enforce against discharges was hindered due to lack of PCS data, North Carolina stated that they have repeatedly offered to authorize access to EPA of all the State's AFO permitting and compliance databases. The State also indicated that it provided adequate notice of its AFO permitting by its Public Notice for the Animal Waste General Permit issuance before 1997.

North Carolina took exception to our reference to the 24 discharges reported from October 1, 1998 through August 31, 1999. They added that EPA reviewed hundreds of files and did not report any incident of inadequate enforcement. In addition, North Carolina stated that they have completed enforcement actions on almost all of the 24 discharges. The State also took exception to our draft report statement concerning the extent of State waters which may have been affected by CAFO pollution.

OIG EVALUATION

We generally agreed with EPA Region 4's suggested revisions and incorporated them into the final report.

According to several key EPA Region 4 officials, North Carolina has resisted efforts to issue NPDES CAFO permits. We recognize that EPA Region 4 had not responded formerly to North Carolina's request dated Sept. 29, 1999. However, EPA Region 4 had informally informed North Carolina that EPA would not grant North Carolina functional equivalency. Specifically, the Region's FY 2000 Midyear review of North Carolina's Water Programs reported that the State continues to pursue approval of their State-based CAFO permitting program as "functionally equivalent" to the NPDES Program while EPA continues to inform the State that this course of action is not feasible. In addition, North Carolina's original request for functional equivalency was based on North Carolina's current program which did not incorporate all of the necessary NPDES requirements. We recognize that the North Carolina permit program may be more stringent in areas outside of the two examples cited in our report. However, this does not relieve North Carolina from the requirement of issuing permits that include all applicable regulatory provisions.

In response to the State's objection to our draft report statement concerning the extent of State waters which may have been affected by CAFO pollution, we revised that statement to more accurately reflect the supporting evidence.

With regard to the lack of Federal enforceability against pollutant discharges by AFO's in the State, we recognize the State's offer to authorize EPA Region 4 access to the State's AFO permitting and compliance databases.

However, this does not preclude the State from issuing NPDES CAFO permits and entering the required permit data in EPA's PCS database. Regarding the State's assertion that it provided adequate public notice of its AFO permitting, we recognize that the State issued the Public Notice for the Animal Waste General Permit before its issuance in 1997. However, this action did not satisfy the NPDES requirement that a 30-day public notice period be given prior to each facility being issued a permit.

The universe of 24 discharges used in our review was obtained from North Carolina's DWQ. We reviewed ten farm and enforcement files. Due to the fact that State AFOs were not part of the NPDES program and, therefore, not subject to NPDES enforcement by EPA Region 4, we did not assess the adequacy of AFO State enforcement actions. However, we found that the State had not taken enforcement actions on several AFO discharges as of the completion of our field work.

OTHER MATTERS

NORTH CAROLINA'S AFO PILOT PROGRAM MAY NOT HAVE BEEN EFFECTIVE

A pilot program was established under North Carolina House Bill 1160, Part III, in 1997, which impacted the annual inspections of AFOs subject to North Carolina's permit. During the period of our review, North Carolina had three counties designated as pilot counties: Jones, Columbus, and Brunswick. Under the pilot program, North Carolina's Division of Soil and Water Conservation (S&W) conducted inspections at least once a year of all animal operations subject to North Carolina permits.

Within these pilot counties, S&W was the only regular inspection presence for all AFO facilities. However, NCDENR DWQ officials told us they generally did not take any enforcement actions based solely on S&W inspection results. We were informed that it was NCDENR DWQ's practice that they only considered taking enforcement actions when NCDENR DWQ inspectors also observed the S&W reported discharges. If these AFOs had been operating under NPDES CAFO permits, EPA could have taken enforcement actions based solely on S&W inspection results.

NCDENR DWQ did not have a regular monitoring and enforcement presence within these three pilot counties, therefore, facilities in these counties may not have been adequately inspected, the results of the inspections may not have been conveyed to the Department, and effective enforcement actions may not have been taken. Since DWQ did not take enforcement actions based solely on S&W inspection results and had no authority to conduct annual inspections unless called in by S&W or a citizen complaint, this program may not have been operating effectively. Additionally, S&W inspectors generally took less stringent enforcement positions with farmers. S&W was viewed by the farmers and the Department as there to

**North Carolina Uniform
Guidance, Criteria, and
Training for AFO
Inspectors May Be
Inadequate**

assist the farmer more than to monitor and enforce AFO discharges which was viewed by the State as more the role of the Department.

DWQ officials could not provide us with evidence of uniform guidance, criteria, and training for regional AFO inspectors. Regional AFO inspectors told us that they did not have specific guidance or criteria on the types of violations which would have triggered recommendations for enforcement actions and civil penalty assessment. Additionally, the regional inspectors indicated that they did not have guidance or criteria on how to prepare a formal enforcement package.

We found inconsistencies among enforcement actions taken in response to pollution discharges into waters of the State. For example, in some cases the documented discharges resulted in assessed civil penalties, but for others the regional inspector claimed to have reinspected the facility via an undocumented “informal inspection” and determined no enforcement action was necessary. We discussed the lack of guidance with North Carolina enforcement officials and were told they were in the process of developing guidance, but neither draft guidance nor a future date for planned issuance of that guidance was available.

Additionally, we noted that DWQ inspectors may not have received specific or uniform training with regards to conducting AFO inspections, identifying violations, or preparing enforcement packages. The DWQ regional inspectors told us training generally consisted of quarterly inspector meetings where certain stated topics of interest were addressed. In addition, we were told that, in lieu of formal training, regional inspectors relied heavily on experience and on-the-job training.

If sufficient guidance and training were developed, it would have ensured more consistent field inspections, complete inspection reports, and uniform enforcement actions. We suggest that NCDENR DWQ finalize and

issue uniform guidance and consider developing uniform training for its AFO Inspectors.

**NORTH CAROLINA'S
DATA IN EPA'S PCS
WAS INCOMPLETE IN
KEY AREAS**

North Carolina's permit enforcement action data was not maintained in EPA's PCS as agreed upon between the State and EPA Region 4 in the State's CWA Section 106 FY 1999/2000 Water Grant Workplan. In addition, North Carolina did not enter the results of monitoring for facilities WET testing requirements. North Carolina maintained a separate data system for enforcement actions and WET permit monitoring that was not linked to PCS. North Carolina's maintenance of an adequate level of data quality in PCS was imperative in order to enable EPA Region 4 to track key components of the State's NPDES program. Without this data quality EPA Region 4 could not adequately fulfill its Congressionally-mandated oversight role related to the State's water quality.

The PCS was EPA's central nationwide database that supported the NPDES program at the state, regional, and national levels. EPA Region 4 used PCS to track key NPDES components including monitoring, inspection, and enforcement actions and to monitor the compliance status of each facility according to the requirements in the individual NPDES permit. EPA also relied on the accuracy of data in PCS for its use in generating key oversight reports such as the significant noncompliance reports, the Recap National Report, and reports to Congress. These reports summarized the key components of NPDES program activity by state and were used by state and Federal officials to assess the effectiveness and efficiency of the NPDES program. According to an Office of Water and OECA joint Memorandum dated February 22, 1999, PCS directly supported a key Congressionally-mandated EPA priority related to the Government Performance Results Act (GPRA). Maintaining a level of data quality in the system was imperative in order to determine if the Agency was meeting its commitments under GPRA.

For example, one of the GPRA goals for water programs related to reductions in pollutant loadings from point

sources. Reliable and comprehensive baseline data in PCS was necessary in order to determine whether that goal had been met. EPA Region 4 also used PCS data to prioritize national activities based on various analysis of the data. This analysis was used to determine geographical areas in which to prioritize facilities for inspections, permit reviews, and enforcement activities. In addition, PCS data was used in compiling and targeting areas related to environmental justice activities.

There were 41 PCS data entry requirements within North Carolina's FY 1999/2000 Section 106 Grant Workplan. Of these 41 requirements, 12 related to State enforcement actions and penalties. These Workplan commitments included data reporting requirements related to quarterly noncompliance report (QNCR) enforcement data; State, judicial and administrative penalty orders including assessed and collected dollar amounts; administrative orders or equivalent actions; and, formal enforcement actions in response to violations of NPDES permit effluent limitations. However, data related to State enforcement actions, specifically penalty dollars assessed and collected, and WET testing, was not maintained in PCS.

We also noted that discharge data which had been entered in PCS were not always accurate. We reviewed DMR data for seven major facilities to determine whether permit violations were reported. We compared the results of our review to EPA IDEA Detailed Facility Reports as of May 2000 which were generated from data in PCS for the period January 1999 through September 1999. We found discrepancies between the actual discharge results as reported on the DMR versus the reports generated from PCS for four of the seven facilities (refer to Exhibit 3 for details). State officials told us when their DMR data was uploaded into PCS, daily maximum readings were sometimes uploaded incorrectly into the weekly average field in PCS. This could have caused PCS to flag a weekly average violation when, in fact, there was not a violation. The QNCR review process would have normally prevented these errors from occurring on the final QNCR; however,

reports generated from PCS, such as the Detailed Facility Report we reviewed, could have included incorrect information and mislead users.

Although PCS data entry had been a continuing problem for North Carolina for the last several years, it appeared that the State had recently improved the completeness of State data entered into PCS. For example, five of eight active SOC's for major facilities were recorded in PCS. Also, according to EPA Region 4 officials, North Carolina met its FY 1999/2000 Section 106 List of Commitment PCS data entry requirements for DMRs during the first quarter of FY 2000. Further, North Carolina's FY 2000 First Quarter QNCR was submitted to EPA in a timely manner. However, from the period October 1, 1998, through April 1, 2000, PCS reflected no penalty dollars assessed and collected in North Carolina, even though, according to the State's records, North Carolina assessed approximately \$135,000 in penalties for major facilities during this period. Until approximately four years ago, North Carolina's database for enforcement actions was linked to PCS allowing State information to be uploaded. Since then, North Carolina had manually entered enforcement action and penalty information into PCS. According to State officials, North Carolina did not have adequate resources to devote staff to this PCS data entry responsibility.

North Carolina maintained an automated tracking system for all applicable NPDES permit data related to WET limits and monitoring. However, North Carolina did not enter results of its WET testing in PCS and, instead, maintained this information in the State database. According to North Carolina officials, 550 facilities within the State, including both major and minor permittees, had toxic monitoring requirements. These facilities submitted approximately 2,400 self-monitoring reports last year related to these monitoring requirements.

The lack of NPDES monitoring and enforcement related information in PCS hindered the ability of EPA to

adequately oversee the NPDES program. Without adequate or accurate PCS data, the Agency could have under-reported or incorrectly reported data related to GPRA commitments. In addition, EPA managers could have made incorrect planning and targeting decisions based on reports generated from inaccurate PCS data.

Although PCS data entry had been a continuing problem for North Carolina for the last several years, it appeared that the State had recently improved the accuracy and completeness of State data entered into PCS. However North Carolina's permit enforcement action data and the results of monitoring for facilities WET testing requirements were not maintained in the PCS as required by the Section 106 FY 1999/2000 Grant Workplan. North Carolina's maintenance of an adequate level of data quality in PCS was essential in order for EPA Region 4 to track key components of the State's NPDES program. Without reliable data EPA Region 4 might not have adequately fulfilled its oversight role on the NPDES program, which includes monitoring inspections, enforcement actions, and compliance status of each facility.

At the end of our fieldwork, the Region 4 PCS Manager informed us that the State had entered WET data into PCS during July 2000.

OECA recognized problems with the usability of PCS and associated problems with state input of data into PCS. OECA had been working on a new application software to upload state NPDES data into PCS. The OIG's national audit of EPA enforcement activities, underway at the end of our fieldwork, will address this area further in that separate review.

We suggest that the Regional Administrator ensure that adequate NPDES enforcement data be entered into the PCS by North Carolina, or, in the alternative, that Region 4 officials take adequate interim steps to obtain the enforcement data necessary to fulfill their oversight responsibilities over North Carolina's NPDES program.

OFFICIALS NEED TO PROTECT THE ENVIRONMENT WHEN INTERPRETING DIFFERENT SPLIT-SAMPLE RESULTS

[NC Town A] sometimes used split sampling to determine whether their effluent was in compliance with the WET limits of their NPDES permit. When this was done, part of the test sample was sent to one laboratory for analysis and another part of the same test sample was sent to a second laboratory. When State officials received both a “pass” and a “fail” from a split sample, their policy was to recognize the “pass” and ignore the “fail.” As stated by the Supervisor of the State’s Aquatic Toxicology Unit: “...it has been our policy to accept and record the result which lies in favor of the discharging facility. A result of ‘pass’ has been recorded for the . . . [specified] toxicity test.” According to Region 4’s WET Coordinator, she discouraged the State from following this policy, but the issue was not addressed by regulations or any EPA policy, and she was not able to dissuade the State from continuing its policy.

We believed if there was reasonable doubt concerning the meaning of data, it should have been interpreted so that any error was made on the side of public health and a better environment. Accordingly, we believed a “pass” and a “fail” from a split sample should have been interpreted as a “fail” and appropriate action should have been taken to improve the water quality. Therefore, we suggest the Regional Administrator incorporate this principle into the next MOA with the State. We further suggest that the Regional Administrator ensure that this principle is reaffirmed to the State before the next MOA is negotiated and that other appropriate means be considered for encouraging the State to change its policy.

[This page intentionally left blank.]

EXHIBIT 1

SCOPE AND METHODOLOGY

To determine the timeliness and appropriateness of enforcement actions against NPDES permittees, we reviewed North Carolina DENR Water Quality Section enforcement, permit, and discharge monitoring report files located in both the Central Office in Raleigh and in the State's Asheville, Raleigh, Washington, Wilmington, and Winston-Salem Regional Offices. We also interviewed officials from the Water Quality Section's Central Office and from the State's Regional Offices in Asheville, Raleigh, Washington, Wilmington, Winston-Salem, and Mooresville. We primarily reviewed enforcement actions taken against permittees in violation of their permit limits in Federal Fiscal Years 1998 through 2000 year to date. We also reviewed permittee compliance with the State's formal enforcement actions (i.e., SOCs) by reviewing the enforcement histories of selected facilities.

Our review of the timeliness and appropriateness of the State's enforcement actions was based on a sample of 21 NPDES permittees known to be in violation of their permit limits. This sample included 17 major facilities and four minor facilities. We used several sources of information to select a sample of major facilities to review. For major facilities, we selected NPDES permittees that were either: (1) listed on Region 4's Active Exception List for the 4th quarter of FY 1999; (2) considered in non-compliance for five or more quarters in FYs 1998 and 1999 according to the PCS SNC Tracker Report; or (3) assessed seven or more civil penalties since the initiation of the State's penalty policy in June 1998. For minor facilities, we selected the only four facilities that had nine or more civil penalty assessments since June 1998 and also had a permitted discharge limit of 50,000 gallons or more a day.

In order to evaluate compliance monitoring activities we selected a sample of 18 facilities (this sample did not include any of the permittees selected in the sample discussed in the preceding paragraph). We reviewed inspection reports conducted for the inspection periods July 1998 through June 2000, and discharge monitoring reports for Fiscal Year 1999 for the 18 facilities in our sample. We determined whether inspections were conducted on an annual basis for major facilities and once every five years for minor facilities. We discussed the results of these inspections with appropriate State regional officials. We reviewed DMRs to determine whether violations reported on DMRs were detected by the State during its compliance review. Our compliance monitoring sample included seven major facilities and 11 minor facilities. For major facilities we selected the largest facility (in terms of design flow) for each of the seven State regional offices. For minor facilities, we selected the largest 10 minor facilities (in terms of design flow) excluding water plants. We excluded water plants from our minor sample since they would have a relatively minimal effect on water quality as compared to other facilities. We

selected one additional minor facility to ensure that a facility from all seven regional offices was included in our sample.

To determine whether North Carolina's AFO permits contained all required NPDES regulatory provisions where applicable, we interviewed officials from EPA Region 4's Environmental Accountability Division and Water Division and officials from North Carolina's DWQ. We also reviewed State and Federal regulations pertaining to animal feeding operations, the CWA, and North Carolina's general permit for animal feeding operations. We also performed a limited review of State enforcement actions against animal feeding operation facilities known to have discharged to waters of the State. The review of enforcement actions was based on a sample of 10 documented discharges to State waters during the period October 1998 through August 31, 1999. We reviewed the State's enforcement actions for these discharges, reviewed inspection reports for these facilities, and discussed the results of the inspections and the enforcement actions taken against these facilities with State inspectors.

In order to evaluate the adequacy of State NPDES data entered into EPA's PCS we interviewed officials from EPA Region 4's Water Division, and North Carolina's DWQ. We obtained information on enforcement actions from the State and reviewed PCS to determine whether this information was entered into PCS. We also compared the results of our review of DMRs for major facilities to PCS reports to determine whether violations disclosed by our manual review of DMRs were reflected in PCS.

In order to assess regional oversight of North Carolina's NPDES program we interviewed EPA Region 4 Water Division officials and reviewed various oversight related documents including CWA Section 106 Grant midyear and end of year evaluations, EPA's MOA with North Carolina, the EPA/North Carolina Performance Partnership Agreement, QNCRs, and Active Exception Lists.

Exhibit 2

SCHEDULE OF TIME REQUIRED TO OBTAIN SOC_s

	Entity	Noncompliant Item	Date in SNC *	Date SOC Obtained	Months to Obtain SOC
1	[NC Town H]	Mercury	3-94	1-16-98 **	41
2	[NC City K]	BOD & NH ₃ -N	5-93 ***	3-26-97	45 ***
3	[NC City L]	Fecal Coliform	2-94	9-15-96	30
4	[NC City M]	WET & Mercury	6-93	1-94	6.5
5	[NC Town N]	Mercury	11-95	2-98	26

* Date in SNC or equivalent (date of second exceedance within six months; exceedances being greater than 20% over permit limit, or 40% over permit limit, etc., as appropriate for the different permit items).

** Date Town signed SOC.

*** Files were not readily available before 1996. However, documentation indicates the City violated its BOD limit 610 times and its NH₃-N limits 428 times between January 1993 and October 1996. The City was in SNC in May 1993.

[This page intentionally left blank.]

Exhibit 3

**DISCREPANCIES BETWEEN MONITORING REPORTS
AND PCS REPORTS**

Facility	Violations Reported on the DMR but not on the Facility Report		False Violations Reported on the Facility Report (i.e., no violation per the DMR).	
	Pollutant	Time Period	Pollutant	Time Period
[NC County O]	Cyanide	Sep. 99 Aug. 99	CBOD	Jul-Sep 99
[NC County P]	None		Fecal coliform	Jan-Mar 99, Apr-Jun 99, Jul-Sep 99
[NC City Q]	None		Fecal coliform	Jul-Sep 99
[NC City R]	None		Fecal coliform	Jan-March 99

[This page intentionally left blank.]

Exhibit 4

ENDNOTES

1. EPA defined overfiling as taking an enforcement action in addition to one a state had already taken for the same violations. Some states and members of Congress referred to overfiling as EPA taking any action against a company or other entity, even if the state decided not to take an action or if it was for different reasons.
2. As explained in an Office of Wastewater Management document, states and territories identify impaired waterbodies, i.e. those not meeting water quality standards. Lists of these waterbodies are provided to the public and EPA every two years. States then establish TMDLs for waterbodies on the list. TMDLs specify the reductions needed to meet water quality standards and allocate those reductions among the sources in the watershed. TMDLs can take up to 15 years to establish.
3. As noted in the scope and methodology section of this report, our sample was oriented toward facilities with long term compliance problems and included facilities where available information indicated a SOC had not been taken.
4. Six of the permittees we reviewed obtained SOCs. We evaluated the timeliness in which five of these permittees obtained their SOCs. In the sixth case, the SOC was obtained in 1995 and the available file documentation did not enable us to determine whether the SOC was obtained timely.
5. The appropriateness of existing EPA guidance for taking “timely and appropriate action” when a permittee is in significant noncompliance will be addressed in a separate OIG audit report on the EPA’s national NPDES Enforcement program.
6. This Wastewater Treatment Plant is also discussed in Chapter 2 of this report.
7. pH stands for “potential of hydrogen” and is a measure of how acidic or alkaline a substance is. Acids have pH values over 7.
8. North Carolina NPDES permits define a composite sample as either “a series of grab samples collected at equal intervals over a 24 hour period of discharge...” or “a series of grab samples of equal volume collected over a 24 hour period with the time intervals between samples determined by a preset number of gallons passing the sampling point...”

or “a single, continuous sample collected over a 24 hour period proportional to the rate of flow.”

9. North Carolina NPDES permits define grab sample as “...individual samples collected over a period of time not exceeding 15 minutes; the grab can be taken manually. Grab samples must be representative of the discharge or the receiving waters.”
10. An aliquot of reagent water (or other neutral reference material) known to be free of the analyte being tested which is treated as an environmental sample in that is exposed to all aspects of the collection and analytical process in both the field and the laboratory.
11. The term animal unit is defined as “...a unit of measurement for any animal feeding operation calculated by adding the following numbers: the number of slaughter and feeder cattle multiplied by 1.0, plus the number of mature dairy cattle multiplied by 1.4, plus the number of swine weighing over 25 kilograms multiplied by 0.4, plus the number of sheep multiplied by 0.1, plus the number of horses multiplied by 0.2.”

Appendix 1

EPA REGION 4 RESPONSE TO THE DRAFT AUDIT REPORT

September 14, 2000

MEMORANDUM

SUBJECT: North Carolina's NPDES Enforcement and Region 4 Oversight Draft Audit Report

FROM: Beverly H. Banister, Director
Water Management Division

TO: John M. Bishop
Audit Manager, RTP Regional Audit Office
Southern Audit Division

Region 4 has carefully reviewed the draft audit report sent to us on August 14, 2000. There are three areas that EPA would like to make additional comments/suggestions: storm water, Combined Animal Feeding Operations (CAFO) and oversight of minor NPDES facilities. Additionally, EPA would like to inform you of the actions already underway to address these concerns.

Storm water

Storm water regulation implementation is an issue that challenges Region 4 and its states. This additional requirement has put a heavy resource demand on Clean Water Act resources that are also strained with other emerging issues like Total Daily Maximum Loading (TMDL). EPA has been aggressively working with all our states to assist them in making improvements to their storm water programs. EPA would be remiss in not mentioning that North Carolina demonstrated effective and innovative use of storm water requirements. Specifically, North Carolina used storm water enforcement to address an important environmental problem involving illegal ditching and draining activities in coastal wetlands. This initiative required a resource commitment from both EPA and the State, and has resulted in restoration of wetlands and deterrence of future violations.

CAFO

After reading Chapter 6 of the draft report, EPA feels additional factual clarification is necessary. It appears that some of the basic issues have been lost in the editing process. For simplicity, Attachment 1 is a redline/strike out that is representative of EPA.

Minor NPDES Facilities

In Chapters 1 and 2, the recommendation for EPA's increased oversight of minor facilities is troublesome. EPA's ability to oversee the state's regulation of minor facilities is limited by available resources as well as Clean Water Act regulatory and policy. EPA must maintain a focus on majors, but we will address minors as resources permit through a variety of tools, such as random sampling during file reviews and requests to the state for pertinent information on violations and enforcement actions.

Action Plan

EPA and North Carolina senior officials have already met to discuss resolution of many of the recommendations contained in the draft report. Agreements have been made to collaboratively construct an action plan to overcome and or clarify issues in North Carolina's implementation of the Clean Water Act program as well as EPA's role in oversight of a delegated program.

Thank you for a final opportunity to comment on the report. If any of our comments need clarification, I will make my staff immediately available to assist in meeting any deadline you may have. If I or my staff can be of further assistance, please contact me at (404) 562-9326.

Attachment (Auditor's Note: Region 4's attachment contained editorial corrections. It was not attached to this final report but is available upon request.)

cc: Tommy Stevens, NCDENR

Appendix 2

NORTH CAROLINA DENR'S RESPONSE TO THE DRAFT AUDIT REPORT



NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

DIVISION OF WATER QUALITY

September 13, 2000

JAMES B. HUNT JR.
GOVERNOR

BILL HOLMAN
SECRETARY

KERR T. STEVENS
DIRECTOR

MEMORANDUM

To: John Bishop
Audit Manager, RTP Regional Audit Office
Southern Audit Division

From: Kerr T. Stevens 
Director, NC Division of Water Quality

Subject: Office of Inspector General Audit report

Staff of the North Carolina Division of Water Quality (DWQ) have reviewed the draft Office of Inspector General (OIG) audit findings and wish to offer the attached comments on its contents and findings. Included within our comments and summarized at the end of this document are our responses to the recommendations of this draft report.

It is unfortunate that additional time could not have been provided to allow formal combined comments to be provided jointly by this agency and Region IV, EPA. There are recommendations within the draft report with which we have concerns and the additional time would have allowed us and EPA to provide more constructive comments, and to more fully consider the potential impacts of the recommendations on the program, program resources and water quality in North Carolina. Staff from the DWQ have had initial discussions with EPA Region IV staff and will work to develop a plan to address the issues raised in the draft audit report.

We note that the draft report does not document any actual adverse water quality impacts as a result of the identified deficiencies. In addition the report does not evaluate the potential benefits to be gained by implementing the recommendations in relation to the impacts on program resources and the impacts on other water quality programs.

We are also somewhat disappointed that the report does not recognize any of the accomplishments of the water quality program which EPA considers to be a performer in Region IV and proactive in many areas. Certainly, North Carolina has aggressive and very active NPDES and CAFO compliance monitoring and enforcement programs when compared to most other States. Significant program resources are directed toward these efforts. The release of this document without the acknowledgment of the positive aspects of the program, is not fair to the program, and promotes the use of the information provided in the report out of context.



1617 MAIL SERVICE CENTER, RALEIGH, NORTH CAROLINA 27608-1617
website: h2o.enr.state.nc.us Phone 919-733-6083 FAX 919-733-9919
AN EQUAL OPPORTUNITY / AFFIRMATIVE ACTION EMPLOYER • 50% RECYCLED/10% POST-CONSUMER PAPER

If you have any questions about this matter please do not hesitate to contact Mr. Bill Reid at (919) 733-5083 ext. 519.

CC: Beverly H. Banister
Robin Smith
Coleen Sullins
Bill Reid
Dennis Ramsey
Jeff Poupert
Kim Colson
Bradley Bennett
Shannon Langley

With regard to the State needing to improve its NPDES Enforcement Efforts we would offer the following comments.

I. **Enforcement actions are not always taken promptly for violations of daily or weekly permit limits**

The overall impression of this section seems to suggest every violation must be identified and addressed with a formal enforcement action. This would go beyond EPA guidance and we would like to get their input on the recommendation for this finding. We would suggest from our conversations with surrounding states both in EPA Region 4 and in other EPA regions that North Carolina's NPDES program is more aggressive and, in most cases, far more aggressive than any other state in identifying and addressing NPDES permit effluent violations through enforcement actions in a swift and consistent manner.

Most of the OIG's concerns can be more than adequately addressed by an understanding of the current enforcement policy. Each month, the DWQ identifies all facilities that violate monthly averages. That screening initiates the full review of the DMR that results in identification of violations other than non-monthly average violations. Appropriate enforcement will follow if policy thresholds are exceeded.

It will be a rare occasion when a facility has weekly violations of a chronic nature and does not violate the monthly average (because non-monthly limitations are higher than the monthly limit). Therefore, our policy will pick up most daily/weekly violations of this type. If the monthly average is not exceeded, consistent with EPA policy, associated non-monthly limit violations are not considered SNC (and, therefore would not require an enforcement response). Therefore, the only instance when a daily maximum or weekly average violation will not be identified in a timely manner by the state is for an isolated single violation. The OIG recommendation to prevent isolated violations from going unnoticed is to begin manually reviewing all DMR's. A manual review of all DMR's in an attempt to find all rare and isolated daily and weekly average limit violations would be a tremendous misuse of resources and provide no environmental benefit. This recommendation becomes even more troubling as you read further into the draft audit recommendations that suggest the state needs to redirect resources towards stormwater compliance and enforcement activities. The Division is pursuing several avenues to obtain staffing assistance for these compliance/enforcement activities at these sites. This will be discussed in greater detail further down in our comments. To recommend technical staff perform manual administrative reviews to identify an isolated violation of a daily maximum effluent limit on one hand and then to recommend on the other hand that staff need to be redirected towards stormwater compliance and enforcement activities and away from "less critical activities" is contradictory.

The MOA between the state and EPA says that

"Timely enforcement action is defined as responding with an initial action against a major (emphasis added) discharger within 30 days of becoming aware that the following

violations have occurred (actions against minor dischargers should be given a lower priority but should be taken as quickly as possible)."

- a. *failure to submit a date related report*
- b. *failure to submit a self monitoring report*
- c. *failure to meet an effluent limitation*

The state currently identifies and addresses all violations with the same frequency and timeline. Nine out of ten enforcement actions we take against NPDES facilities for limit violations are against minor facilities.

State action to be taken

In order to ensure that regional offices are more quickly aware of daily and weekly violations that constitute SNC, the DWQ central office will provide copies of the QNCR to each regional office for review at the same time they are submitted to EPA.

The State will work with EPA to evaluate if there is a need to update the language in the December 6, 1983 MOA between the state and EPA to formally recognize it's civil assessment process.

II. Improvement is needed in forging agreements which bring about compliance with NPDES permit limits

The DWQ considers an NPDES permit to be the documentation of a covenant between the permittee and the State. Non-compliance is not the expected condition and when it occurs, enforcement, not a timetable, is typically dispensed. State enforcement actions actually do, in essence, include a timetable. We expect the timetable for compliance to be immediate. If the problem is operational in nature or result of an isolated event and compliance does not require the construction of additional treatment/disposal facilities, giving the permittee a timetable for corrective action is not appropriate.

We believe that DWQ's enforcement policy works like a Notice of Continuing Penalties (NCP) for a chronically repeating violator. The DWQ would provide as proof that this procedure and policy has had positive benefit, the fact that the overall compliance rate for NPDES facilities has risen from 81% in 1997 to 87% so far in calendar year 2000. (Current enforcement policy was implemented in 1998). Prior to the introduction of the monthly enforcement policy, compliance rates consistently hovered around 80% and were never higher than 82.07%.

The audit report seems to challenge the fact that SOCs cannot be issued for instances of noncompliance that are operational in nature. This is clearly spelled out in North Carolina Administrative Code 15A NCAC 2H .1206 (b)(1) which states

"Requests will not be evaluated unless it is demonstrated by the permittee to the satisfaction of the Director that noncompliance is not due to failure by the permittee to

properly operate, manage and maintain the wastewater treatment system and that the existing wastewater treatment system is being operated in such a way as to attain the highest degree of treatment possible under the existing conditions. The demonstration must also evaluate all reasonably available low-capital-cost interim improvements, even though they may not be directly related to the final treatment option. This demonstration must be made in the form of a report prepared by an independent consultant (a professional with expertise in wastewater treatment)."

North Carolina Regulations do not allow for the issuance of SOC's when the non-compliance is a result of poor operation. It is not a question of whether or not it would be "appropriate." The OIG discussion alludes to this but still seems to challenge its validity. Clearly in this situation the use of technical assistance and existing enforcement programs are more effective in obtaining compliance than simply establishing a compliance date.

The OIG report cites the state's non-use of Special Orders Without Consent, even though they are permitted in the statutes. Our experience has shown that these types of orders are not a wise use of our resources. Such an administrative order can not be signed by the *Division Director* and would thereby be required to be acted upon by the full Environmental Management Commission. Any such order could not be specific with regard to actions to be undertaken, as that would make DWQ potentially responsible for plant performance and its compliance or non-compliance. And, as stated in the report, it is subject to review in the OAH. The State makes every effort to enter into agreements, if such agreements are warranted, which are both aggressive and realistic. Meaningful and achievable timelines are something that you simply must incorporate into SOC's if they are to be useful. Special orders without consent could not contain these detailed plans of action as evaluated by an experienced third party consultant and would do little more than allow non-compliant facilities additional time.

In addition, the report's discussion regarding NC's adherence to "EPA SOC Guidance" does not accurately portray the State's SOC timeline. You must take into account the negotiation that goes on before a draft SOC is prepared when evaluating the timeline for obtaining an SOC. In many instances, DWQ staff from regional offices, our technical assistance and certification unit and other staff are consistently working with facilities in order to identify potential remedies to compliance problems. This time consuming effort always occurs before an SOC is entered into and should be appropriately acknowledged by the audit report. This time is highly variable and dependent upon the individual situation.

State action to be taken

The State will continue to pursue SOC's with non-compliant facilities where they are warranted and allowed by North Carolina law as a means of obtaining compliance.

III. North Carolina did not adequately consider economic benefit of noncompliance when assessing civil penalties

“The amount of money saved by non-compliance” is a NC assessment factor that is usually not found to be significant when considering a penalty amount. When evaluating non-compliance at wastewater treatment plants often there is no economic benefit that can be quantified, because all routine practices are being followed at the time of the violations. If the construction of wastewater improvements is necessary to achieve compliance, then in any event these costs must ultimately be borne by the permittee. Delays in these situations rarely result in cost savings. Standard DWQ civil assessments are designed to offset any costs savings from missed sampling events.

If you couple this with the aggressive number of enforcement actions the State takes against NPDES facilities (over 1250 separate cases in the last two years), while an economic benefit factor may be consistent with the “appropriate” criticisms in the draft audit report, it would play havoc with the “timely” goal.

We also feel there is a still a misunderstanding in the area of the States delegated enforcement process. There are prescribed dollar amounts that regional office supervisors are delegated to assess for violations of NPDES permit limits and monitoring frequency. However, in any case where the regional office supervisor feels a higher penalty may be appropriate to address an instance of non-compliance, the regional office may forward a case to the Director for consideration. The Director is authorized by Statute to assess civil penalties of up to \$25,000 per day, per violation of any permit limit.

State action

The State will consult with EPA to evaluate the effect that performing an economic benefit analysis would have on its compliance and enforcement program and proceed accordingly.

IV. Test methods used by minor facilities were not sensitive enough to determine compliance with total residual chlorine limits:

The issue here is that the smaller facilities (e.g. MHP’s, schools, etc.) usually do not have onsite laboratories. The holding time for these samples is 15 minutes. This often necessitates the use of a field method. There is a field method that, in theory, will yield results approaching or down to the cited permit limits. The apparatus, although portable, is quite delicate. All of the set-up procedures required of in-house laboratory testing are required of this equipment in order to get an accurate analysis. It should be noted that there is an ongoing technical debate as to whether or not this method in day to day field use will reliably provide detection limits lower than the less expensive field test (the price noted for this equipment is around \$2000). At this time we do not believe it can.

Therefore, the state would propose to work with EPA to develop a plan for implementation of any new methodology as appropriate.

V. Test methods used for mercury were not precise enough to determine compliance with NPDES Permit limits:

The permit limit for mercury was established to protect water quality and human health, and was not linked to the technologic ability to analyze to that level. Only with the approval of the referenced EPA method 1631 Rev. B is there a way to test to below permit limits. However, this is a brand new method that requires a clean room and sterile technique. Specialized sampling/collection techniques are also required for this method and training of all appropriate staff will have to take place before it can be performed correctly. Before a facility can report using this method, a laboratory will first have to be able to test using the method and will have to be certified by our laboratory section. Individual laboratories will have to decide whether it is in their economic interest to spend the money to construct facilities to do the testing (it will be very expensive). Furthermore, it will take some time for analysts to become competent with the new method. The DWQ Chemistry lab has investigated cost of developing a mercury clean room and is proposing a capital improvement project to implement and an expansion of 4 staff to man the mercury analyzer.

The state proposes to work collaboratively with EPA in order to develop a plan to phase in the use of this test method as appropriate.

VI. COMMENTS ON CHAPTER 4 – NORTH CAROLINA NEEDS TO IMPROVE ITS STORMWATER COMPLIANCE MONITORING AND ENFORCEMENT PROGRAM.

Comments specific to the conclusions and recommendations of this chapter

The DWQ concurs that pollution resulting from stormwater runoff is a significant water quality concern in North Carolina. The State's 2000 303 (d) list indicates that 19% of the State's impaired stream miles listed for sediment and/or turbidity are potentially impacted by construction, development, urban runoff, and non-urban runoff. Sediment in these cases could refer to sedimentation, bank erosion, channelization, lack of riparian vegetation, etc. This problem is larger than Phase I or II of the NPDES Stormwater program. Recognizing this, the DWQ administers a State Stormwater Management program that regulates development activities within our twenty coastal counties, and development activities draining to Outstanding Resource Waters (ORW) or High Quality Waters (HQW). The DWQ also has a Water Supply Watershed Protection program that has required all local governments having land use jurisdiction within water supply watersheds to adopt and implement water supply watershed protection ordinances and management plans. Additionally the DWQ has implemented buffer rules and stormwater management requirements in the Neuse, and Tar-Pamlico river basins.

The report recommends that the State and EPA evaluate the State's current NPDES compliance activities and resource allocation to determine whether resources should be diverted from other, "potentially less critical NPDES compliance activities" to implement a storm water compliance program. The diversion of resources is not an alternative that we feel will protect water quality. Our review of discharge monitoring data from facilities with NPDES wastewater permits, the routine inspection of these facilities, providing technical assistance, and the development of

SOCs and enforcement actions are critical components of a NPDES wastewater discharge compliance program. Over the years these activities have resulted in significant documented increases in compliance rates. The diversion of resources from these activities to stormwater compliance is not recommended from a water quality protection standpoint and would adversely impact the effectiveness of the wastewater discharge compliance program. The draft report, in Chapter 3, recommends changes to the NPDES wastewater compliance program, which would require additional staff resources to implement. There are simply not extra resources available to divert to the stormwater program. The report should acknowledge that additional funding is necessary for the implementation of a comprehensive stormwater compliance program.

In recent years the DWQ has increased compliance and enforcement efforts associated with construction sites and our State stormwater program using existing staff. We concur that additional compliance and enforcement work is needed. As indicated during the audit investigation, the DWQ has attempted to obtain additional funding for these activities from the state legislature and federal grants. The DWQ will continue to seek funding from these sources. In addition, the DWQ will continue to work with the Division of Land Resources to improve coordination of compliance monitoring activities and thus maximize the water quality benefits of their field presence at construction sites. As water quality problems from specific sites are identified we will continue to use available resources and enforcement/compliance mechanisms to require corrective actions and prevent future problems.

Recommended corrections to errors noted in Executive Summary and Chapter 4

- The text associated with the statement “State Needs to Develop a Stormwater Compliance Program”, in the Executive Summary, should be moved to the right side of the page.
- Chapter 4, under “NPDES Storm Water Requirements”:
 - The report states that sampling results (associated with the permit self-monitoring requirements) were not evaluated for compliance against permit limits, but were used to evaluate loadings entering receiving waters. The wording of this statement is confusing in the context of the paragraph, since the stormwater permits require BMPs and do not contain discharge limits.
 - The report includes the statement “The State’s Division of Land Resources, as part of the State’s Erosion and Sediment Control Program, oversaw construction activity and issued NPDES permits for storm water.” Note that the DWQ issues the actual permit and maintain NPDES authority. Land Resources transmits the permits to the permittees for our Division. In addition the statements that following this sentence should note that Land Resources will notify DWQ if an inspection notes potential violations of NPDES requirements.
 - Chapter 4, under “Compliance with Stormwater Requirements Not Routinely Monitored” states that all MS4 permits contain monitoring requirements and 2,747 of the industrial permits potentially required the facility to monitor and analyze stormwater discharges and report these results to the State. Please note that all NPDES Stormwater permits require qualitative monitoring of all outfalls.

General comments

There are several areas throughout the report where the OIG cites permit enforcement action and Whole Effluent Toxicity data as being inaccurate on the PCS system. These are issues that the State has been working on for several years. The enforcement action issue has been remedied with a temporary interface until the states new BIMS system is operational. As for the WET data, the DWQ PCS contact is working with the EPA Region 4 PCS contact to ensure the WET data we upload into PCS can be correctly evaluated.

In summary, the State will take the following actions as a result of the OIG audit recommendations:

1. The State will provide copies of the QNCR to regional offices at the same time they are submitted to EPA Region 4 to ensure identification of daily max and weekly average violations that constitute SNC.
2. The State will evaluate and development a plan for phasing in the requirements for more sensitive test methods for certain parameters with guidance from EPA Region 4 and in association with other Region 4 States.
3. The State is currently working with EPA Region 4 staff to assure that WET data that is routinely uploaded into PCS is correctly evaluated by PCS.
4. The State will continue to evaluate ways to increase presence and activity at permitted stormwater facilities. The State will also continue to seek funding from various sources (state legislature, 104(b)(3) grants), to permanently obtain staff and resources to dedicate to stormwater permitting, compliance and enforcement activities.
5. The State will work with EPA to evaluate if there is a need to update the language in the December 6, 1983 MOA between the state and EPA to formally recognize it's civil assessment process.
6. DWQ will continue to work with the Division of Land Resources to improve coordination of compliance monitoring activities and thus maximize the water quality benefits of their field presence at construction sites. As water quality problems from specific sites are identified we will continue to use available resources and enforcement/compliance mechanisms to require corrective actions and prevent future problems.

VII. Chapter 6 State AFO Permitting

There is an apparent grammatical error on page 51 first paragraph. There is a quote about the number of discharges (29 to WOS) through September 30, 1999 but on page 56 EPA Oversight section the report references only 24 discharges through August 1999. The auditors during their discussions indicated that in deference to Floyd's devastation they would not include September 1999 data. The list provided to them is attached. Even on the 24 reported discharges listed several should not have been listed including: 3 that did not hit WOS, 1 discharge wasn't wastewater but irrigation water, 1 was runoff from a drystack, 1 was just evidence of past discharge 1 was caused by a Tornado (Acts of God).

The contention that North Carolina has repeatedly "resisted" EPA's efforts to induce them to issue NPDES permits is inaccurate. On September 29, 1999, North Carolina appealed to Region IV after discussions with senior EPA Officials to apply to have its current program evaluated in relation to U. S. Department of Agriculture and U. S. EPA Unified Strategy for Animal Feeding Operations dated March 9, 1999 (Section 5.0 Strategic Issue #3 Action 1.B.) to date no formal response has been received. In fairness this should not be framed as "resistance" on North Carolina's part.

The third paragraph states that North Carolina's permit is more stringent than the NPDES CAFO permit in only two areas. Comparison of the permit should have indicated at least five areas in which North Carolina's permit is more stringent. Areas in which the Not Included in the list are : (1) the ability to require groundwater monitoring; (2) the requirement for a Certified Operator for the treatment system; and (3) a more comprehensive Animal Waste Management Plan (Emergency Response, Odor, Mortality and Insect Control)

In the paragraph beginning "Despite this Federal regulatory prohibition ..." the report is not accurate in its implication. In apply for "functional equivalency" North Carolina was not trying to purposefully thwart federal regulation against being less stringent than Federal Rules but was in fact asking for interpretation of the U. S. Department of Agriculture and U. S. EPA Unified Strategy for Animal Feeding Operations dated March 9, 1999 1999 (Section 5.0 Strategic Issue #3 Action 1.B.)

Potential Environmental Impacts of CAFO Discharges

The reports states that 142.3 miles of waters may be affected by CAFO pollution. It is not appropriate to use a precise number such as 142.3 and the word "may" in the same sentence. Using such a precise number without determining the actual cause seems a vague attempt to draw any reader into a conclusion that exactly this many miles of stream were impacted by CAFOs.

North Carolina AFO Program Lacks Four Key NPDES Provisions

Federal Enforceability

The report contends that EPA's ability to enforce against AFO pollutant discharges was hindered by the fact that the State does not input data into PCS. The State has repeatedly offered to authorize access by EPA to all the State's AFO permitting and compliance databases.

The input into the PCS database of permit and inspection data would give some insight into AFO actions in the state. However, the example given of freeboard violations was irrelevant as freeboard data does not have a field in PCS would not be reported to us on a DMR and there is not a Federal Requirement to maintain freeboard.

Public Notice

North Carolina did issue Public Notice for the Animal Waste General Permit before its issuance in 1997 and a list of the animal operations subject to the permit has been available on the Internet for several years. Public Notice is issued when before issuance of an individual permit.

EPA Oversight

The State was actually delegated the NPDES program back in the 1970's not 1994. The State has repeatedly offered to authorize access by EPA to all the State's AFO permitting and compliance databases. The number of discharges offered in the report for the covered period "24" is correct. However, as previously stated the 24 reported discharges include several that should not have been listed including: 3 that did not hit WOS, 1 discharge wasn't wastewater but irrigation water, 1 was runoff from a drystack, 1 was just evidence of past discharge and 1 was caused by a Tornado (Acts of God). As an aside North Carolina has completed enforcement action on almost all of the discharges. EPA reviewed hundreds of files and did not offer in the report even one specific example of an incident which the EPA did not feel adequate enforcement was taken.

Third Party Lawsuits

Senate bill 1217 should properly be cited as General Statute 106-803

State Action to be taken

North Carolina will continue to issue individual NPDES CAFO permits when an individual permit is necessary and to issue general NPDES CAFO permits beginning in January 2002. This date is appropriate for several reasons: 1. It corresponds to the completion of the first five-year cycle of CAFO permits statutorily required in North Carolina General Statute 143-215-10C to begin January 1, 1997. 2. It will take time for North Carolina to draft a general NPDES CAFO permit acceptable to the EPA and affected stakeholders and to publicly notice that permit. 3. Administrative Rule and or statutory changes may be required for implementation and the drafting and enactment of these potential changes will take time.

Other Matters

North Carolina AFO Pilot Program May not be effective.

North Carolina General Statute 143-215.10E specifically states "that any employee of a State Agency or local government lawfully on the premises and engaged in activities relating to the animal operation who observes any of the following violations shall immediately notify....and the Division [of Water Quality (DWQ)]" The violations include " Any direct discharge of animal waste into waters of the State..." . While it is true that only DWQ personnel can initiate an enforcement action information from Soil and Water personnel inspections can and has been used in enforcement actions.

State Action to be Taken

During the next Animal Waste System Inspectors meeting on October 6, 2000 we will reiterate that information gathered from any credible source can be used to initiate an enforcement action. A representative from the Attorney General's Office, Mary Dee Carraway gave a presentation at the last meeting on July 18, 2000 on information needed for an enforcement cases this may have already rectified the issue brought forward in the report.

North Carolina Lacked Uniform Guidance , Criteria and Training for AFO Inspectors

DWQ contends that our AFO Inspectors are the most highly trained inspectors in the country. In the last two and half years forty six (46) separate training events (list attached) have been held for and attended by North Carolina's AFO inspectors. They have been issued instruction to the inspection form, manuals, rules, statutes and guidance and policy memos. They have also received specific checklists on the preparation of enforcement cases. (sample copies attached).

State Action to be Taken

A comprehensive document outlining the actions to be taken for all the areas on the inspection form (copy attached) was signed on September 6, 2000. An updated extremely comprehensive Animal Inspection Manual was given out at the July 18, 2000 meeting to replace previous manual. We seek EPA's guidance as to what additional training they feel is necessary

Appendix 3

Report Distribution List

Office of Inspector General

Inspector General (2410)
Deputy Assistant Inspector General for Internal Audits (2421)
(Audit Control file-3)
Divisional Inspector General for Audit, Southern Audit Division
(Audit Followup File)
Divisional Inspectors General for Audit
Audit Managers, Branch Offices

Headquarters Office

Assistant Administrator for Enforcement and Compliance Assurance (2201A)
Assistant Administrator for Water (6101)
Comptroller (2731)
Associate Administrator for Regional Operations (1100A)
Associate Administrator for Congressional and Intergovernmental Relations (1301A)
Associate Administrator for Communications, Education, and Media Relations (1101A)
Agency Audit Followup Official (2710)
Agency Followup Coordinator (2724)

EPA Region 4

Regional Administrator
Director, Water Management Division
Chief, CWA/SD Water Enforcement Branch, WMD
Director, Environmental Accountability Division
Audit Followup Coordinator
Public Affairs Office

State of North Carolina

Secretary, Department of Environment & Natural Resources
Director, Division of Water Quality
State Auditor

(This page intentionally left blank.)